STIC Search Report
EIC 1700

STIC Database Tracking Number: 198658

TO:	From:
Jill M Gray **Location: REM 10A15** **Art Unit : 1774** **August 16, 2006** **Case Serial Number: 10/508870**	**Mei Huang** **Location: EIC 1700** **REMSEN 4B28** **Phone: 571/272-3952** **Mei.huang@uspto.gov**

Search Notes

Examiner Gray,

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang

198658

Anekwe, Imelda (ASRC)

From: JILL GRAY [jill.gray@uspto.gov]
Sent: Monday, August 14, 2006 8:06 PM
To: STIC-EIC1700
Subject: Database Search Request, Serial Number: 10/508,870

Requester:
JILL GRAY (P/1774)
Art Unit:
GROUP ART UNIT 1774
Employee Number:
66983
Office Location:
REM 10A15
Phone Number:
(571)272-1524
Mailbox Number:

SCIENTIFIC REFERENCE BR
Sci & Tech Inf Ctr
AUG 1
Pat. & T.M. Office

Case serial number:
10/508,870
Class / Subclass(es):

Earliest Priority Filing Date:
February 2, 2002
Format preferred for results:
Paper
Search Topic Information:
Please search claims. Also, please search for different terms/names/pre-reacted start materials/etc. for "prehydrolyzed" chitosan.

Thanx.
Special Instructions and Other Comments:

STIC Search Results Feedback Form

USPTO

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art* ***found****, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art* ***not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

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=> fil reg
FILE 'REGISTRY' ENTERED AT 15:27:49 ON 16 AUG 2006
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=> d his ful

     (FILE 'HOME' ENTERED AT 14:26:52 ON 16 AUG 2006)

     FILE 'HCAPLUS' ENTERED AT 14:27:03 ON 16 AUG 2006
               E US20050084677/PN
L1             1 SEA US2005084677/PN

     FILE 'REGISTRY' ENTERED AT 14:29:32 ON 16 AUG 2006
L2             1 SEA 9012-76-4/BI

     FILE 'HCAPLUS' ENTERED AT 14:40:09 ON 16 AUG 2006
L3         19803 SEA L2
L4         24639 SEA CHITOSAN? OR AMIDAN? OR CHICOL? OR CHIROSAN? OR
                 CHITECH? OR CHITOCLEAR? OR CHITOFOS? OR CHITOLAZE? OR
                 CHITOSOL? OR CHITOSOM?
L5        241810 SEA PREHYDROL? OR PRETREAT? OR PRECONDITION? OR PREPROCES
                 S? OR PREREACT? OR PRE(A)(HYDROL? OR TREAT? OR CONDITION?
                  OR PROCESS? OR REACT?)
L6           337 SEA L5 AND (L3 OR L4)
L7         43471 SEA ("COATING(S)"/CV OR COATINGS/CV)
L8        130518 SEA "COATING PROCESS"/CV
L9        280226 SEA "COATING MATERIALS"/CV
L10         2170 SEA PREHYDROL? OR PRE(A)HYDROL?
L11       636228 SEA HYDROL?
L12      1031991 SEA FIBER? OR FIBR?
L13            1 SEA L6 AND L10
L14            0 SEA L13 AND (L7 OR L8 OR L9)
L15            0 SEA L13 AND L12
L16           12 SEA L6 AND (L7 OR L8 OR L9)
L17            4 SEA L16 AND L12
L18         1811 SEA L11 AND (L3 OR L4)
L19           28 SEA L18 AND (L7 OR L8 OR L9)
L20            4 SEA L19 AND L12
L21            8 SEA L16 NOT L17


=> fil hcap
FILE 'HCAPLUS' ENTERED AT 15:27:56 ON 16 AUG 2006
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MEI HUANG EIC1700 REM4B28 571-272-3952 08/16/2006

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=> d l13 que stat
L2             1 SEA FILE=REGISTRY 9012-76-4/BI
L3         19803 SEA FILE=HCAPLUS L2
L4         24639 SEA FILE=HCAPLUS CHITOSAN? OR AMIDAN? OR CHICOL? OR
                 CHIROSAN? OR CHITECH? OR CHITOCLEAR? OR CHITOFOS? OR
                 CHITOLAZE? OR CHITOSOL? OR CHITOSOM?
L5        241810 SEA FILE=HCAPLUS PREHYDROL? OR PRETREAT? OR PRECONDITION?
                  OR PREPROCESS? OR PREREACT? OR PRE(A)(HYDROL? OR TREAT?
                 OR CONDITION? OR PROCESS? OR REACT?)
L6           337 SEA FILE=HCAPLUS L5 AND (L3 OR L4)
L10         2170 SEA FILE=HCAPLUS PREHYDROL? OR PRE(A)HYDROL?
L13            1 SEA FILE=HCAPLUS L6 AND L10

=> d l13 ibib abs hitstr hitind

L13  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:          2005:1203970  HCAPLUS
DOCUMENT NUMBER:           145:29752
TITLE:                     Acid hydrolysis of commercial chitosans
AUTHOR(S):                 Knill, C. J.; Kennedy, J. F.; Mistry, J.;
                           Miraftab, M.; Smart, G.; Groocock, M. R.;
                           Williams, H. J.
CORPORATE SOURCE:          Chembiotech Laboratories, Institute of Research
                           and Development, University of Birmingham
                           Research Park, Birmingham, B15 2SQ, UK
SOURCE:                    Journal of Chemical Technology and Biotechnology
                           (2005), 80(11), 1291-1296
                           CODEN: JCTBED; ISSN: 0268-2575
PUBLISHER:                 John Wiley & Sons Ltd.
DOCUMENT TYPE:             Journal
LANGUAGE:                  English
AB   Com. chitosans were subjected to controlled acid
     hydrolysis and their degrees of deacetylation (DD), mol. size and
     rheol. flow profiles detd. (pre- and post-hydrolysis) by 1H-NMR
     spectroscopy, high-performance size-exclusion chromatog. and
     rheometry, resp.  Hydrolysis resulted in DD increases between 4 and
     11%.  Unhydrolyzed chitosans had Mw and Mn values in the
     ranges 700-1200 and 130-210 kDa, resp.  Chitosan with the
     smallest initial mol. size avs. had the smallest avs. after
     hydrolysis; however, a chitosan with an intermediate
     initial mol. size proved to be most resistant to hydrolysis.  Mol.
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size trends were paralleled by zero shear viscosity (η0) measurements detd. by application of the Williamson model to rheol. flow profile data. Viscosity is obviously related to mol. size, but does not necessarily reflect relative ease of hydrolysis, since specific hydrolysis conditions affect structurally similar polysaccharides in different ways (in terms of rate of depolymn. and de-N-acetylation, etc), which are not simply due to differences in mol. size profiles **pre-hydrolysis.**

IT **9012-76-4**, Kate 50-100
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(Kate 50-100, Seacure 443; acid hydrolysis of com. **chitosans** in relation to changes in acetylation and mol. wt. and rheol. flow profile)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 44-5 (Industrial Carbohydrates)
ST **chitosan** acid hydrolysis deacetylation mol wt flow
IT Deacetylation
Flow
Molecular weight
Polydispersity
(acid hydrolysis of com. **chitosans** in relation to changes in acetylation and mol. wt. and rheol. flow profile)
IT Hydrolysis
(acid; acid hydrolysis of com. **chitosans** in relation to changes in acetylation and mol. wt. and rheol. flow profile)
IT **9012-76-4**, Kate 50-100
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(Kate 50-100, Seacure 443; acid hydrolysis of com. **chitosans** in relation to changes in acetylation and mol. wt. and rheol. flow profile)
IT 70694-72-3, Seacure CL 310
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(acid hydrolysis of com. **chitosans** in relation to changes in acetylation and mol. wt. and rheol. flow profile)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l17 que stat
L2 1 SEA FILE=REGISTRY 9012-76-4/BI

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L3        19803 SEA FILE=HCAPLUS L2
L4        24639 SEA FILE=HCAPLUS CHITOSAN? OR AMIDAN? OR CHICOL? OR
                CHIROSAN? OR CHITECH? OR CHITOCLEAR? OR CHITOFOS? OR
                CHITOLAZE? OR CHITOSOL? OR CHITOSOM?
L5       241810 SEA FILE=HCAPLUS PREHYDROL? OR PRETREAT? OR PRECONDITION?
                 OR PREPROCESS? OR PREREACT? OR PRE(A)(HYDROL? OR TREAT?
                OR CONDITION? OR PROCESS? OR REACT?)
L6          337 SEA FILE=HCAPLUS L5 AND (L3 OR L4)
L7        43471 SEA FILE=HCAPLUS ("COATING(S)"/CV OR COATINGS/CV)
L8       130518 SEA FILE=HCAPLUS "COATING PROCESS"/CV
L9       280226 SEA FILE=HCAPLUS "COATING MATERIALS"/CV
L12     1031991 SEA FILE=HCAPLUS FIBER? OR FIBR?
L16          12 SEA FILE=HCAPLUS L6 AND (L7 OR L8 OR L9)
L17           4 SEA FILE=HCAPLUS L16 AND L12


=> d l17 ibib abs hitstr hitind 1-4

L17  ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2004:963011  HCAPLUS
DOCUMENT NUMBER:          141:399823
TITLE:                    Filler for washing polluted malodorous air and
                          washing system for malodorous air deodorization
INVENTOR(S):              Kobayashi, Toshisuke; Kobayashi, Reiko;
                          Kobayashi, Nobuo
PATENT ASSIGNEE(S):       Esupo K. K., Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 31 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------
     --------
     JP 2004313893         A2    20041111    JP 2003-109964
                                                                     200304
                                                                     15
PRIORITY APPLN. INFO.:                       JP 2003-109964
                                                                     200304
                                                                     15

AB   The filler is packed in a gas washing app. for washing polluted air
     and contains paper particles made of mainly cellulose fibers
     which are subjected to the following treatment for giving
     water-proofness and hardness (A), (B), or (C) alternatively after
```

pretreatment with an aq. soln. contg. H3PO4 with or without urea and heating and drying at 130-170°: (A) immersion in an aq. soln. contg. 1 or 2 poly(vinyl alc.) and sol. **chitosan**, ≥1 of cellulose **fiber** crosslinking agent having ≥2 methylol or methoxyl groups, an acidic promoter, and MeOH. and heating and drying; (B) immersion in an aq. soln. contg. an acidic promoter, drying while leaving water slightly, and reaction with gaseous formaldehyde at ≤100; and (C) immersion in an aq. soln. contg. 1 or 2 poly(vinyl alc.) and sol. **chitosan** and acidic promoter, drying while leaving water slightly, and reaction with gaseous formaldehyde at ≤100°. The washing system comprises the washing app. provided with at least one layer contg. the filler and a washing soln. storage tank. The layer comprises multilayer structure, bags, or cartridges contg. the filler and filled with an aq. amphoteric org. compd. with ≥150° b.p. Harmful and malodorous air pollutants can be removed collectively and easily.

IT **9012-76-4, Chitosan**
RL: NUU (Other use, unclassified); USES (Uses)
(filler treatment soln. contg.; paper particle as filler for air deodorization and purifn. by washing and air washing system)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM B01D053-18
ICS A61L009-01; A61L009-14; B01D047-06; B01D053-14; B01D053-34; B01D053-77

CC 59-6 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 17, 42, 43, 46, 60

IT **Coating materials**
(air contg. mist of, removal of; paper particle as filler for air deodorization and purifn. by washing and air washing system)

IT Crosslinking agents
(for cellulose **fibers**, filler treatment soln. contg.; paper particle as filler for air deodorization and purifn. by washing and air washing system)

IT 50-00-0, Formaldehyde, uses 57-13-6, Urea, uses 7664-38-2, Phosphoric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(filler **pretreatment** with; paper particle as filler for air deodorization and purifn. by washing and air washing system)

IT 67-56-1, Methanol, uses 1854-26-8, N,N'-Dimethylol dihydroxyethylene urea 9002-89-5, Poly(vinyl alcohol)
9012-76-4, Chitosan
RL: NUU (Other use, unclassified); USES (Uses)
(filler treatment soln. contg.; paper particle as filler for air

deodorization and purifn. by washing and air washing system)

L17 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:551030 HCAPLUS
DOCUMENT NUMBER: 139:102348
TITLE: Natural **fiber** coated with **chitosan** and a method for producing the same
INVENTOR(S): Kim, Young-Jun; Son, Tae-Won; Kim, Won-Ki; Yoo, Hyun-Oh
PATENT ASSIGNEE(S): Ibeks Technologies Co., Ltd., USA
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003134120	A1	20030717	US 2002-193889	20020712
PRIORITY APPLN. INFO.:			KR 2001-84171 A	20011224

AB Disclosed is a **chitosan**-coated natural **fiber**, comprising 70-99.9% by wt. of a core consisting of a natural **fiber**; and 0.1-30% by wt. of a sheath layer consisting of **chitosan**, uniformly coated over the surface of the natural **fiber** core. The **chitosan**-coated natural **fiber** is prepd. by **pretreating** a natural yarn to improve affinity for **chitosan** with aq. alk. soln, an aq. acid soln. an aq. salt soln. or a combination thereof, coating the **pretreated** natural **fiber** with **chitosan**, and stabilizing the **fiber** by heating or with an alk. soln. The **chitosan**-coated **fiber** is 5-10 μm in fineness and 1-300 mm in length and shows desirable **fiber** properties as well as beneficial functions of **chitosan**, including antibacterial, deodorization and hemostatic activities.

IT **9012-76-4, Chitosan**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(natural **fiber** coated with **chitosan**)
RN 9012-76-4 HCAPLUS

CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM B32B027-12
ICS B32B027-04; A61K009-70; D02G003-00
INCL 428375000; 442123000; 008181000; 424443000
CC 40-5 (Textiles and Fibers)
ST **chitosan** coated natural **fiber** manuf; thermal fixation natural **fiber chitosan** coating; salt soln **pretreatment** natural **fiber chitosan** coating; alk soln **pretreatment** natural **fiber chitosan** coating; acid soln **pretreatment** natural **fiber chitosan** coating
IT Synthetic polymeric **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(casein; natural **fiber** coated with **chitosan**)
IT **Fibers**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(cellulosic; natural **fiber** coated with **chitosan**)
IT **Coating process**
(coating natural **fibers** with **chitosan** with **pretreatments** and fixation steps)
IT Caseins, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**fiber**, synthetic; natural **fiber** coated with **chitosan**)
IT Ceiba pentandra
Hibiscus cannabinus
Linum usitatissimum
Musa textilis
(**fibers**; natural **fiber** coated with **chitosan**)
IT Caseins, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**fibers**; natural **fiber** coated with **chitosan**)
IT Heat treatment
(fixation treatment; in coating natural **fibers** with **chitosan**)
IT Animal **fibers**
Coating materials
Cotton **fibers**

Hemp **fibers**
Jute **fibers**
Ramie **fibers**
(natural **fiber** coated with **chitosan**)

IT Acetate **fibers**, processes
Rayon, processes
Sisal
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(natural **fiber** coated with **chitosan**)

IT Alkali metal hydroxides
RL: NUU (Other use, unclassified); USES (Uses)
(**pretreatment** and fixation; in coating natural **fibers** with **chitosan**)

IT Acids, uses
Carboxylic acids, uses
Salts, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**pretreatment**; in coating natural **fibers** with **chitosan**)

IT Natural **fibers**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(protein; natural **fiber** coated with **chitosan**)

IT Rayon, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(reconstituted; natural **fiber** coated with **chitosan**)

IT Acetate **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(triacetate; natural **fiber** coated with **chitosan**)

IT 50-81-7, Ascorbic acid, uses 68-12-2, DMF, uses 75-09-2, Methylene chloride, uses 76-03-9, Trichloroacetic acid, uses 76-05-1, Trifluoroacetic acid, uses 104-15-4, Toluenesulfonic acid, uses 127-19-5, Dimethylacetamide 526-95-4, Gluconic acid 685-91-6 872-50-4, NMP, uses 6915-15-7, Malic acid 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-93-9, Sulfuric acid, uses 25322-20-7, Tetrachloroethane
RL: NUU (Other use, unclassified); USES (Uses)
(**chitosan** solvent; in coating natural **fibers** with **chitosan**)

IT 9004-34-6, Cellulose, processes 9004-35-7, Cellulose acetate 9012-09-3, Cellulose triacetate
RL: PEP (Physical, engineering or chemical process); PYP (Physical

process); PROC (Process)
(**fibers**; natural **fiber** coated with **chitosan**)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 108-95-2, Phenol, uses 35296-72-1, Butanol 62309-51-7, Propanol
RL: NUU (Other use, unclassified); USES (Uses)
(fixation treatment; in coating natural **fibers** with **chitosan**)

IT **9012-76-4, Chitosan**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(natural **fiber** coated with **chitosan**)

IT 1304-28-5, Barium oxide, uses 1305-62-0, Calcium hydroxide, uses 1310-58-3, Potassium hydroxide, uses 1310-65-2, Lithium hydroxide 1310-73-2, Sodium hydroxide, uses 17194-00-2, Barium hydroxide
RL: NUU (Other use, unclassified); USES (Uses)
(**pretreatment** and fixation; in coating natural **fibers** with **chitosan**)

IT 50-21-5, Lactic acid, uses 56-86-0, Glutamic acid, uses 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 72-17-3, Sodium lactate 79-09-4, Propionic acid, uses 79-10-7, Acrylic acid, uses 79-14-1, Glycolic acid, uses 87-69-4, Tartaric acid, uses 110-15-6, Succinic acid, uses 110-16-7, Maleic acid, uses 127-08-2, Potassium acetate 127-09-3, Sodium acetate 141-52-6, Sodium ethoxide 144-62-7, Oxalic acid, uses 540-72-7, Sodium thiocyanate 996-31-6, Potassium lactate 1305-78-8, Calcium oxide, uses 1932-50-9, Potassium glycolate 2836-32-0, Sodium glycolate 7447-40-7, Potassium chloride, uses 7447-41-8, Lithium chloride, uses 7646-85-7, Zinc chloride, uses 7647-14-5, Sodium chloride, uses 10043-52-4, Calcium chloride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**pretreatment**; in coating natural **fibers** with **chitosan**)

L17 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:550375 HCAPLUS
DOCUMENT NUMBER: 139:104649
TITLE: Aqueous agents for **pretreatment** of substrates, method for such treatment, and thus treated metals and **fibers**
INVENTOR(S): Tanaka, Kazuya; Shimizu, Akio; Morita, Ryoji; Tsuchida, Shinya; Kobayashi, Shigeyuki; Sannan, Takanori
PATENT ASSIGNEE(S): Nihon Parkerizing Co., Ltd., Japan; Dainichiseika Color and Chemical Mfg. Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003201576	A2	20030718	JP 2002-4905	20020111
WO 2003060190	A1	20030724	WO 2003-JP176	20030110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003201868	A1	20030730	AU 2003-201868	20030110
CN 1615375	A	20050511	CN 2003-802167	20030110
US 2005103229	A1	20050519	US 2003-500892	20030110

PRIORITY APPLN. INFO.:		
JP 2002-4905	A	20020111
WO 2003-JP176	W	20030110

AB The aq. solns. contain (A) **chitosan** (derivs.) and (B) metal compds. contg. ≥1 of Ti, Zr, Hf, Mo, W, Se, Ce, Fe, Cu, Zn, V, and Cr(III). The agents may also contain (C) org. compds. having ≥1 CO2H group(s) in a mol. Materials are coated with the solns., rinsed, and then dried at 80-300°. Metals, e.g.

Al, Mg, Cu, Fe, Zn, and Ni, treated by the said process, are also claimed. Peeling-resistant overcoatings can be formed on thus treated metals, having resistance to corrosion and solvents. Treatment of metals with the agents followed by polymer overcoating and shaping into beverage cans showing excellent corrosion resistance was demonstrated. Also demonstrated were textiles treated with the agents, showing antibacterial performance even after repeated washing.

IT **9012-76-4, Chitosan 9012-76-4D, Chitosan**, cationized
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)
(treatment agent; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C23C022-48
ICS C23C022-68; B05D007-24

CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 5, 17, 40, 42, 55

ST **pretreatment** metal substrate aq **chitosan** soln; metal contg **chitosan** aq soln metal **pretreatment**; overcoating peeling resistance metal **pretreatment**; antibacterial textile **pretreatment** agent **chitosan** metal compd; beverage can metal **pretreatment** soln

IT **Coating materials**
(anticorrosive; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT **Coating materials**
(aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT **Coating materials**
(bactericidal; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for

corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT Textiles
(cotton; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT **Coating materials**
(solvent-resistant; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT Beverage cans
(treated metals for; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT Aluminum alloy, base
Copper alloy, base
Iron alloy, base
Magnesium alloy, base
Nickel alloy, base
Zinc alloy, base
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT 7429-90-5, Aluminum, processes 7439-89-6, Iron, processes 7439-95-4, Magnesium, processes 7440-02-0, Nickel, processes 7440-50-8, Copper, processes 7440-66-6, Zinc, processes 37321-73-6, A 3004
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT **9012-76-4, Chitosan 9012-76-4D, Chitosan**, cationized 83512-85-0, Carboxymethyl **chitosan** 84069-44-3, Hydroxypropylchitosan
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)

(treatment agent; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

IT 60-00-4, Ethylenediamine tetraacetic acid, uses 77-92-9, Citric acid, uses 110-15-6, Succinic acid, uses 1703-58-8, 1,2,3,4-Butanetetracarboxylic acid 7585-20-8, Zirconium acetate 11098-84-3, Ammonium molybdate 11113-56-7, Chromium fluoride 12021-95-3 17309-53-4, Cerium nitrate 22829-17-0, Zirconium ammonium carbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(treatment agent; aq. **chitosan** (deriv.) agents contg. metal compds. for **pretreatment** of metals for corrosion-, solvent-, and overcoating peeling resistance and of textiles for durable antibacterial characteristics)

L17 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:532815 HCAPLUS
DOCUMENT NUMBER: 139:102347
TITLE: **Chitosan**-containing spun yarn and method for producing the same
INVENTOR(S): Kim, Young-Jun; Son, Tae-Won; Kim, Won-Ki
PATENT ASSIGNEE(S): Ibeks Technologies Co., Ltd., S. Korea
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003056081	A1	20030710	WO 2002-KR1257	20020703

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002345412	A1	20030715	AU 2002-345412	200207 03
PRIORITY APPLN. INFO.:			KR 2001-84172	A 200112 24
			WO 2002-KR1257	W 200207 03

AB Disclosed is a **chitosan** gradated spun yarn in which **chitosan**-coated staple **fibers** decrease in relative concn. from outer to inner region on a cross section of the yarn. Consisting of 5-99 wt% of a **chitosan**-coated staple **fiber** and 1-95 wt% a non-coated staple **fiber**, the **chitosan** gradated spun yarn comprises **chitosan** in an amt. of 1-5 wt% in an outer area on the cross section of the yarn, in an amt. of 0.5-1 wt% in a middle area, and in an amt. of 0.1-0.5 wt% in a central area. The yarn shows the same **fiber** properties as those of the spun yarn made of cellulose or proteins and can perform the functions of pure **chitosan** **fibers** in spite of its low content of **chitosan.** The **chitosan** gradated yarn is manufd. by **pretreating** the yarn 1 min to 10 days at 0-90° in aq. alk. soln., aq. acidic soln., aq. salt soln. or a combination of ≥2, aging the **chitosan** soln. in aq. acidic soln., aq. inorg. salt soln, org. solvent, applying the aged **chitosan** soln. to the **pretreated** yarn 1-10 h at 30-80° and (1.5-5) + 105 N/m2, and thermal or alkali fixation. This process gives coated yarn with improved adhesion between the **chitosan** and the **fibers** and improved durability of the **chitosan.**

IT **9012-76-4, Chitosan**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**chitosan**-contg. spun natural yarn with improved **chitosan**-yarn adhesion)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM D02G003-00
CC 40-5 (Textiles and Fibers)
ST **chitosan** coated natural yarn manuf
IT Synthetic polymeric **fibers**, processes

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(casein; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Hair
(cashmere and mohair; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Animal **fibers**
Coating process
Hemp **fibers**
Jute **fibers**
Ramie **fibers**
Silk
Wool
(**chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Acetate **fibers**, processes
Rayon, processes
Sisal
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Yarns
(cotton; in coating spun natural yarn with **chitosan** for improved **chitosan**-yarn adhesion)

IT Caseins, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**fiber**, synthetic; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Ceiba pentandra
Hibiscus cannabinus
Lama pacos
Linum usitatissimum
Musa textilis
Wood
(**fibers**; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Camelus
(hair; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Heat treatment
(in coating spun natural yarn with **chitosan** for improved **chitosan**-yarn adhesion)

IT Alkali metal hydroxides
Carboxylic acids, uses

Chlorides, uses
Salts, uses
RL: NUU (Other use, unclassified); USES (Uses)
(in coating spun natural yarn with **chitosan** for improved **chitosan**-yarn adhesion)

IT Acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(inorg.; in coating spun natural yarn with **chitosan** for improved **chitosan**-yarn adhesion)

IT Yarns
(linen; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Natural **fibers**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(protein; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Rayon, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(reconstituted; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT Acetate **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(triacetate; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT 9012-09-3, Cellulose triacetate
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT **9012-76-4, Chitosan**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**chitosan**-contg. spun natural yarn with improved **chitosan**-yarn adhesion)

IT 9004-35-7, Cellulose acetate
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(**fibers**; **chitosan**-coated spun natural yarn with improved **chitosan**-yarn adhesion)

IT 50-21-5, Lactic acid, uses 50-81-7, Ascorbic acid, uses 56-86-0, Glutamic acid, uses 64-17-5, Ethanol, uses 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 67-56-1, Methanol, uses 68-12-2, DMF, uses 72-17-3, Sodium lactate 75-09-2, Methylene

chloride, uses 76-03-9, Trichloroacetic acid, uses 76-05-1, Trifluoroacetic acid, uses 77-92-9, Citric acid, uses 79-09-4, Propionic acid, uses 79-10-7, Acrylic acid, uses 79-14-1, Glycolic acid, uses 87-69-4, Tartaric acid, uses 104-15-4, Toluenesulfonic acid, uses 108-95-2, Phenol, uses 110-15-6, Succinic acid, uses 110-16-7, Maleic acid, uses 127-08-2, Potassium acetate 127-09-3, Sodium acetate 127-19-5, Dimethylacetamide 141-52-6, Sodium ethoxide 144-62-7, Oxalic acid, uses 526-95-4, Gluconic acid 540-72-7, Sodium thiocyanate 685-91-6 872-50-4, NMP, uses 996-31-6, Potassium lactate 1304-28-5, Barium oxide, uses 1305-62-0, Calcium hydroxide, uses 1305-78-8, Calcium oxide, uses 1310-58-3, Potassium hydroxide, uses 1310-65-2, Lithium hydroxide 1310-73-2, Sodium hydroxide, uses 1932-50-9, Potassium glycolate 2836-32-0, Sodium glycolate 6915-15-7, Malic acid 7447-40-7, Potassium chloride, uses 7447-41-8, Lithium chloride, uses 7646-85-7, Zinc chloride, uses 7647-01-0, Hydrochloric acid, uses 7647-14-5, Sodium chloride, uses 7664-38-2, Phosphoric acid, uses 7664-93-9, Sulfuric acid, uses 10043-52-4, Calcium chloride, uses 12136-45-7, Potassium oxide, uses 17194-00-2, Barium hydroxide 25322-20-7, Tetrachloroethane 35296-72-1, Butanol 62309-51-7, Propanol
RL: NUU (Other use, unclassified); USES (Uses)
(in coating spun natural yarn with **chitosan** for improved **chitosan**-yarn adhesion)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> d l21 que stat
L2            1 SEA FILE=REGISTRY 9012-76-4/BI
L3        19803 SEA FILE=HCAPLUS L2
L4        24639 SEA FILE=HCAPLUS CHITOSAN? OR AMIDAN? OR CHICOL? OR
                CHIROSAN? OR CHITECH? OR CHITOCLEAR? OR CHITOFOS? OR
                CHITOLAZE? OR CHITOSOL? OR CHITOSOM?
L5       241810 SEA FILE=HCAPLUS PREHYDROL? OR PRETREAT? OR PRECONDITION?
                 OR PREPROCESS? OR PREREACT? OR PRE(A)(HYDROL? OR TREAT?
                OR CONDITION? OR PROCESS? OR REACT?)
L6          337 SEA FILE=HCAPLUS L5 AND (L3 OR L4)
L7        43471 SEA FILE=HCAPLUS ("COATING(S)"/CV OR COATINGS/CV)
L8       130518 SEA FILE=HCAPLUS "COATING PROCESS"/CV
L9       280226 SEA FILE=HCAPLUS "COATING MATERIALS"/CV
L12     1031991 SEA FILE=HCAPLUS FIBER? OR FIBR?
L16          12 SEA FILE=HCAPLUS L6 AND (L7 OR L8 OR L9)
L17           4 SEA FILE=HCAPLUS L16 AND L12
L21           8 SEA FILE=HCAPLUS L16 NOT L17
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=> d l21 ibib abs hitstr hitind 1-8

L21 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:746683 HCAPLUS
DOCUMENT NUMBER: 142:199247
TITLE: Polypropylene surface functionalization with **chitosan**
AUTHOR(S): Bratskaya, Svetlana; Marinin, Dmitry; Nitschke, Mirko; Pleul, Dieter; Schwarz, Simona; Simon, Frank
CORPORATE SOURCE: Institute of Chemistry, Far East Department of Russian Academy of Sciences, Vladivostok, 690022, Russia
SOURCE: Journal of Adhesion Science and Technology (2004), 18(10), 1173-1186
CODEN: JATEE8; ISSN: 0169-4243
PUBLISHER: VSP BV
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Chitosan** coatings on oxygen-plasma **pre-treated** polypropylene (PP) surfaces were formed to improve their wettability, dyeing behavior, and reactivity without altering material bulk properties. XPS, electrokinetic potential and contact angle measurements as well as dye uptake tests were carried out for surface characterization of modified PP, evaluation of **chitosan** coatings stability, and the effects of temp. and pH on coatings formation. About 20-30% of the total amt. of **chitosan** immobilized on PP was found to be covalently bonded to the plasma **pre-treated** surface through the heat induced reactions with oxygen-contg. functional groups at T > 80° that corresponded to 47% of surface coverage. Subsequent crosslinking reaction with epichlorohydrin proved to be an efficient way to reduce the susceptibility of **chitosan** coatings to acidic hydrolysis.

IT **9012-76-4, Chitosan**
RL: PRP (Properties)
(properties of oxygen-plasma **pre-treated** polypropylene functionalized with **chitosan** coating)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 42

ST polypropylene **chitosan** coating stability wettability zeta potential

IT **Coating materials**
Contact angle
Dyeing
Wettability
X-ray photoelectron spectra
Zeta potential
(properties of oxygen-plasma **pre-treated** polypropylene functionalized with **chitosan** coating)
IT 9003-07-0, Polypropylene
RL: PRP (Properties)
(film, Quickpack; properties of oxygen-plasma **pre-treated** polypropylene functionalized with **chitosan** coating)
IT 7440-44-0, Carbon, properties 7727-37-9, Nitrogen, properties **9012-76-4**, **Chitosan** 51810-35-6, Parafilm M 333382-99-3, Novolen 2900NC
RL: PRP (Properties)
(properties of oxygen-plasma **pre-treated** polypropylene functionalized with **chitosan** coating)
IT 86994-65-2P, **Chitosan**-epichlorohydrin copolymer
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(properties of oxygen-plasma **pre-treated** polypropylene functionalized with **chitosan** coating)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:915348 HCAPLUS
DOCUMENT NUMBER: 140:95083
TITLE: Immobilization of **chitosan** on nylon 6,6 and PET granules through hydrolysis **pretreatment**
AUTHOR(S): Zhang, X.; Bai, Renbi
CORPORATE SOURCE: Department of Chemical and Environmental Engineering, National University of Singapore, Singapore, 119260, Singapore
SOURCE: Journal of Applied Polymer Science (2003), 90(14), 3973-3979
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Chitosan** has been increasingly studied as an adsorbent for removing heavy metal ions and org. compds. from aq. solns. Most of the studies used **chitosan** in the form of flakes, powder,

or hydrogel beads. This research investigates the immobilization of **chitosan** on other granular materials to overcome the poor mech. property of **chitosan** and offers the potential for **chitosan** to be used as a regenerable adsorbent. Nylon 6,6 and poly(ethylene terephthalate) (PET) granules were partially hydrolyzed under an acidic or alk. condition to allow **chitosan** to be coated or immobilized on the granules' surfaces. The surface morphologies of nylon 6,6 or PET granules before and after hydrolysis and those with immobilized **chitosan** layer were examd. by SEM (SEM), and their surface properties were characterized through ζ-potential anal. and XPS. The immobilization of **chitosan** on nylon 6,6 or PET granules was identified to be through the formation of the salt structure (-NH+3···-OOC-) between the surfaces of hydrolyzed nylon 6,6 or PET granules and the **chitosan** layer.

IT **9012-76-4, Chitosan**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(immobilization of **chitosan** on nylon 6,6 and PET granules through hydrolysis **pretreatment**)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 60

ST immobilization **chitosan** polyamide PET granule hydrolysis **pretreatment**; polyethylene terephthalate immobilization **chitosan** polyamide; absorbent wastewater treatment modified **chitosan**

IT Polyamides, uses
Polyesters, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hydrolyzed; immobilization of **chitosan** on nylon 6,6 and PET granules through hydrolysis **pretreatment**)

IT Adsorbents
Binding energy
Coating materials
Coating process
Wastewater treatment
Zeta potential
(immobilization of **chitosan** on nylon 6,6 and PET granules through hydrolysis **pretreatment**)

IT Polymer morphology
(surface; immobilization of **chitosan** on nylon 6,6 and

PET granules through hydrolysis **pretreatment**)

IT **9012-76-4**, **Chitosan** 25038-59-9D, Poly(ethylene terephthalate), hydrolyzed 32131-17-2D, Nylon 66, hydrolyzed
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(immobilization of **chitosan** on nylon 6,6 and PET granules through hydrolysis **pretreatment**)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:691037 HCAPLUS
DOCUMENT NUMBER: 131:323910
TITLE: Treatment of substrates to enhance the quality of printed images thereon with a mixture of a polyacid and polybase
INVENTOR(S): Nigam, Asutosh
PATENT ASSIGNEE(S): SRI International, USA
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9954143	A1	19991028	WO 1999-US8868	19990422
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6171444	B1	20010109	US 1999-282536	19990331
US 6197383	B1	20010306	US 1999-282754	19990331
US 6241787	B1	20010605	US 1999-282538	19990331
EP 1073559	A1	20010207	EP 1999-921444	19990422

EP 1073559	B1	20040623		
R: DE, FR, GB, IT, NL				
JP 2002512313	T2	20020423	JP 2000-544509	19990422
US 2003062506	A1	20030403	US 2002-264435	20021003
US 6776921	B2	20040817		
US 2004232377	A1	20041125	US 2004-877475	20040625

PRIORITY APPLN. INFO.:	US 1998-82697P	P 19980422
	US 1999-282536	A 19990331
	US 1999-282538	A 19990331
	US 1999-282754	A 19990331
	US 1999-282753	A3 19990331
	WO 1999-US8868	W 19990422
	US 2001-894223	A3 20010627
	US 2002-264435	A3 20021003

OTHER SOURCE(S): MARPAT 131:323910

AB When applied to a substrate, the title compns. provide for high quality printed images when the treated substrate is printed on with

an ink contg. a reactive dye having ionizable and/or nucleophilic groups capable of reacting with the image-enhancing agent. Images printed on a substrate treated with the image-enhancing compns. of the invention are bleed-resistant, water-resistant (e.g., water-fast), and/or are characterized by enhanced chroma and hue. Optionally, ≤40% film-forming binder is added to the image-enhancing compns. A typical compn. contained maleic anhydride-styrene copolymer 21.4, ethoxylated polyethyleneimine (37%) 7.1, and 1:4 fumed silica-pptd. silica mixt. 71.4 parts.

IT **9012-76-4, Chitosan**
RL: TEM (Technical or engineered material use); USES (Uses)
(treatment of substrates to enhance the quality of printed images thereon with mixts. of polyacids and polybases)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM B41M001-26
ICS B41M005-00; D21H017-72; D21H019-44; D21H021-16
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 74
ST polyacid polybase compn substrate **pretreatment** printing; ethoxylated polyethyleneimine substrate **pretreatment** printing; styrene copolymer substrate **pretreatment** printing; maleic anhydride copolymer substrate **pretreatment** printing

IT **Coating materials**
Ink-jet printing
Sizes (agents)
(treatment of substrates to enhance the quality of printed images thereon with mixts. of polyacids and polybases)

IT 56-84-8, Aspartic acid, uses 56-86-0, Glutamic acid, uses 77-92-9, uses 78-90-0, 1,2-Propane diamine 83-86-3, Phytic acid 87-69-4, uses 88-99-3, Phthalic acid, uses 89-05-4, 1,2,4,5-Benzenetetracarboxylic acid 95-54-5, o-Phenylenediamine, uses 97-65-4, Itaconic acid, uses 99-14-9, Tricarballylic acid 100-21-0, 1,4-Benzenedicarboxylic acid, uses 100-22-1, Tetramethyl-p-phenylenediamine 100-97-0, uses 106-50-3, 1,4-Benzenediamine, uses 107-15-3, 1,2-Ethanediamine, uses 108-45-2, 1,3-Benzenediamine, uses 109-76-2, 1,3-Propanediamine 110-15-6, Butanedioic acid, uses 110-16-7, 2-Butenedioic acid (2Z)-, uses 110-17-8, 2-Butenedioic acid (2E)-, uses 110-18-9 110-94-1, Pentanedioic acid 111-40-0 112-24-3 112-57-2, Tetraethylenepentamine 121-91-5, 1,3-Benzenedicarboxylic acid, uses 124-04-9, Hexanedioic acid, uses 124-09-4, 1,6-Hexanediamine, uses 133-38-0, Dihydroxyfumaric acid 141-82-2, Malonic acid, uses 144-62-7, Ethanedioic acid, uses

498-21-5, Methylsuccinic acid 498-24-8, Mesaconic acid 517-60-2, 1,2,3,4,5,6-Benzene hexacarboxylic acid 528-44-9, 1,2,4-Benzenetricarboxylic acid 553-26-4, 4,4'-Bipyridine 569-51-7, 1,2,3-Benzene tricarboxylic acid 1076-97-7, 1,4-Cyclohexanedicarboxylic acid 1121-22-8, trans-1,2-Cyclohexanediamine 1436-59-5, cis-1,2-Cyclohexanediamine 1687-30-5, 1,2-Cyclohexanedicarboxylic acid 2479-49-4 2579-20-6, 1,3-Bis(aminomethyl)cyclohexane 3030-47-5, Pentamethyl diethylenetriamine 3083-10-1, 1,1,4,7,10,10-Hexamethyl triethylenetetramine 3102-87-2 3102-89-4, 2,4,5,6-Tetramethyl-m-phenylenediamine 3971-31-1, 1,3-Cyclohexanedicarboxylic acid 4056-78-4, 1,3-Cyclopentanedicarboxylic acid 4067-16-7, Pentaethylenehexamine 4097-89-6, Tris(2-aminoethyl)amine 6915-15-7, Malic acid 9003-47-8, Polyvinylpyridine 9005-32-7, Alginic acid 9011-13-6, Styrene-maleic anhydride copolymer **9012-76-4, Chitosan** 21291-99-6, 1,2,3-Triaminopropane 23084-86-8, 1,2,4-Cyclohexanetricarboxylic acid 25085-20-5, Adipic acid-diethylenetriamine copolymer 25085-34-1 25085-35-2, Acrylic acid-ethyl acrylate copolymer 25104-18-1, Polylysine 25119-83-9, Acrylic acid-butyl acrylate copolymer 25214-24-8, Acrylic acid-propylene copolymer 25214-69-1, Acrylic acid-acrylonitrile copolymer 25265-19-4, Acrylic acid-acrylonitrile-butadiene copolymer 25357-95-3, 1,3,5-Cyclohexane tricarboxylic acid 26125-51-9, Acrylic acid-ethylene-propylene copolymer 30551-89-4, Polyallylamine 50483-99-3, 1,2-Cyclopentanedicarboxylic acid 54590-72-6, Eastek 1100 67130-14-7, Tetramethyl o-phenylenediamine 82370-43-2, Polyimidazole 116770-99-1, Aziridine-ethylene oxide graft copolymer 141805-83-6, 1,2,3-Cyclohexane tricarboxylic acid 177569-38-9, Aziridine-propylene oxide graft copolymer 248277-27-2, Dihydroxyterephthalic acid 248277-28-3, Norbornenetetracarboxylic acid 248277-30-7, Poly(vinylaziridine)
RL: TEM (Technical or engineered material use); USES (Uses)
(treatment of substrates to enhance the quality of printed images thereon with mixts. of polyacids and polybases)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:520474 HCAPLUS
DOCUMENT NUMBER: 131:345244
TITLE: Preliminary study on the use of **chitosan** in nickel coated polyester paper
AUTHOR(S): Jenvanitpanjakul, Peesamai; Shinagawa, Shunichi
CORPORATE SOURCE: Industrial Materials Research Department, Thailand Institute of Scientific and

Technological Research, Thailand
SOURCE: Journal of Porous Materials (1999), 6(3), 239-246
CODEN: JPMAFX; ISSN: 1380-2224
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The prepn. of nickel coated PET paper was carried out by chem. or electroless plating using a hypophosphite-based bath. **Chitosans** of various types and viscosity were used to surface treat chems. Their performances as surface treatment chems. in electroless plating compared to 3-aminopropyltriethoxysilane (APS) were studied. When PET paper **pretreated** by **chitosans** were plated at 65°, pH 6.5 and 7.5, the reactions were rather sluggish compared to those by APS. Whereas at 75°, pH 7.5, the reaction rate and the amt. of nickel deposition of PET paper treated by APS, **chitosan** A and **chitosan** B were comparable, which were 52.6, 53.2 and 54.7 g/m2, resp. Their electromagnetic interference (EMI) shielding effectiveness showed a linear relation with the amt. of nickel deposition and were closely related to their surface resistivity of nickel coated PET paper. EMI shielding effectiveness of nickel coated PET paper **pretreated** by APS, **chitosan** A and **chitosan** B were over 40 dB and their surface resistivity were <5 + 10-2 Ω/.box..

IT **9012-76-4, Chitosan**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(preliminary study on the use of **chitosan** in nickel coated polyester paper)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 76-14 (Electric Phenomena)
Section cross-reference(s): 42

ST nickel coated polyester paper **chitosan** additive

IT **Coating materials**
(antistatic; preliminary study on the use of **chitosan** in nickel coated polyester paper)

IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(paper; preliminary study on the use of **chitosan** in nickel coated polyester paper)

IT Paper
(polyester; preliminary study on the use of **chitosan** in nickel coated polyester paper)

IT Antistatic agents
Coating materials
Electromagnetic shields
(preliminary study on the use of **chitosan** in nickel coated polyester paper)
IT **9012-76-4, Chitosan**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(preliminary study on the use of **chitosan** in nickel coated polyester paper)
IT 919-30-2 7440-02-0, Nickel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(preliminary study on the use of **chitosan** in nickel coated polyester paper)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:273080 HCAPLUS
DOCUMENT NUMBER: 120:273080
TITLE: **Pretreatment** of wood for coating. 2
AUTHOR(S): Kawamura, Jiro
CORPORATE SOURCE: Kawamura Mokuzai Tosogijutsu Jimusho, Japan
SOURCE: Toso Gijutsu (1993), 32(4), 115-22
CODEN: TOGIBO; ISSN: 0372-0365
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 40 refs. on wood **pretreatments** with **chitosan** or poly(ethylene glycol) or by plasma for coating.
IT **9012-76-4, Chitosan**
RL: USES (Uses)
(wood **pretreated** with, for coating)
RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
CC 42-0 (Coatings, Inks, and Related Products)
Section cross-reference(s): 43
ST review coating process wood **pretreatment**; **chitosan pretreatment** wood review; polyoxyethylene **pretreatment** wood review; plasma **pretreatment** wood review
IT **Coating process**
(for wood, **pretreatments** for)
IT Wood
(**pretreatments** of, for coating, with **chitosan**

or poly(ethylene glycol) or by plasma)
IT Plasma
(wood **pretreated** by, for coating)
IT **9012-76-4**, **Chitosan** 25322-68-3, Poly(ethylene glycol)
RL: USES (Uses)
(wood **pretreated** with, for coating)

L21 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:237724 HCAPLUS
DOCUMENT NUMBER: 116:237724
TITLE: Electroless plating process and **pretreatment** agent for the process
INVENTOR(S): Omura, Yoshihiko; Abe, Yoichi
PATENT ASSIGNEE(S): Omura Toryo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03271375	A2	19911203	JP 1990-71099	19900320
JP 06033461	B4	19940502		

PRIORITY APPLN. INFO.: JP 1990-71099 19900320

AB Electroless plating layer is formed on elec. nonconductive materials by applying a **pretreatment** agent contg. **chitosan** or its derivs. on the materials, drying, applying catalysts, and electroless plating. The plating layer with good adhesion is formed efficiently, and the process is suitable for partial plating.
IT **9012-76-4**, **Chitosan 9012-76-4D**, **Chitosan**, derivs.
RL: USES (Uses)
(electroless plating **pretreatment** with, for elec. nonconductive substrates, for good adhesion)
RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM C23C018-20
CC 44-5 (Industrial Carbohydrates)
Section cross-reference(s): 42, 56
ST **chitosan** electroless coating **pretreatment** agent
IT **Coating process**
(electroless, of elec. nonconductive substrates, **chitosan pretreatment** agents **chitosan** for, for good adhesion)
IT **9012-76-4, Chitosan 9012-76-4D, Chitosan**, derivs.
RL: USES (Uses)
(electroless plating **pretreatment** with, for elec. nonconductive substrates, for good adhesion)
IT 9003-53-6, Polystyrene
RL: USES (Uses)
(plating of, electroless, **chitosan pretreatment** agents in)

L21 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:610273 HCAPLUS
DOCUMENT NUMBER: 115:210273
TITLE: Intermediate coatings and method of applying topcoats
INVENTOR(S): Oomura, Yoshihiko; Saito, Shinichi
PATENT ASSIGNEE(S): Omura Toryo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03153772	A2	19910701	JP 1989-295671	19891113
JP 06089278	B4	19941109		

PRIORITY APPLN. INFO.: JP 1989-295671 19891113

AB Coated substrates are precoated with solns. of **chitosan** and/or its derivs. in dil. acids for improved topcoat application efficiency. Thus, a Fe sheet coated with a red synthetic resin paint was sprayed with a soln. of **chitosan** in 1.5% aq. AcOH, settled for 1 h, and then sprayed with a lacquer to form a topcoat with no lifting or bleeding.

IT **9012-76-4, Chitosan**
RL: USES (Uses)
(treating of precoated substrates with, for improved topcoat application efficiency)

RN 9012-76-4 HCAPLUS

CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C09D007-00

CC 42-2 (Coatings, Inks, and Related Products)

ST **chitosan pretreatment** coating

IT **Coating materials**
(**chitosan**, on precoated substrates, for improved topcoat application efficiency)

IT 64-19-7, Acetic acid, uses and miscellaneous
RL: USES (Uses)
(aq., contg. **chitosan**, treating of precoated substrates with, for improved topcoat application efficiency)

IT **9012-76-4, Chitosan**
RL: USES (Uses)
(treating of precoated substrates with, for improved topcoat application efficiency)

L21 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:145506 HCAPLUS

DOCUMENT NUMBER: 114:145506

TITLE: Electrostatic coating process

INVENTOR(S): Omura, Yoshihiko; Sato, Kimihiko

PATENT ASSIGNEE(S): Zaidan Hojin Totoriken Kogyo Gijutsu Shinko Kyokai, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02261566	A2	19901024	JP 1989-82098	

198903
31

JP 05053552 B4 19930810
PRIORITY APPLN. INFO.: JP 1989-82098
198903
31

AB A substate, particularly wood, is precoated with **chitosan** and/or its deriv. for improved coating efficiency and surface gloss. Thus, a beech wood bar (diam. 4 cm, length 40 cm) precoated with a 1% soln. of **chitosan** in 2% aq. AcOH and then electrocoated with a lacquer, showed a darker color and had better gloss than a control prepd. without the **chitosan** precoating.

IT **9012-76-4, Chitosan**
RL: USES (Uses)
(precoating of wood with, in electrostatic coating, for improved efficiency and surface gloss)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM B05D001-04
ICS B05D003-10
CC 42-2 (Coatings, Inks, and Related Products)
Section cross-reference(s): 43
ST electrostatic coating wood **chitosan pretreatment**
IT **Coating process**
(electrostatic, of wood, precoating with **chitosan** in, for improved efficiency and surface gloss)
IT **9012-76-4, Chitosan**
RL: USES (Uses)
(precoating of wood with, in electrostatic coating, for improved efficiency and surface gloss)

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L2	1	SEA FILE=REGISTRY 9012-76-4/BI
L3	19803	SEA FILE=HCAPLUS L2
L4	24639	SEA FILE=HCAPLUS CHITOSAN? OR AMIDAN? OR CHICOL? OR CHIROSAN? OR CHITECH? OR CHITOCLEAR? OR CHITOFOS? OR CHITOLAZE? OR CHITOSOL? OR CHITOSOM?
L7	43471	SEA FILE=HCAPLUS ("COATING(S)"/CV OR COATINGS/CV)
L8	130518	SEA FILE=HCAPLUS "COATING PROCESS"/CV
L9	280226	SEA FILE=HCAPLUS "COATING MATERIALS"/CV
L11	636228	SEA FILE=HCAPLUS HYDROL?
L12	1031991	SEA FILE=HCAPLUS FIBER? OR FIBR?
L18	1811	SEA FILE=HCAPLUS L11 AND (L3 OR L4)

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L19          28 SEA FILE=HCAPLUS L18 AND (L7 OR L8 OR L9)
L20           4 SEA FILE=HCAPLUS L19 AND L12

=> d l20 ibib abs hitstr hitind 1-4

L20  ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:        2006:295686  HCAPLUS
DOCUMENT NUMBER:         144:338242
TITLE:                   Multifunctional compound for forming crosslinked
                         biomaterials and methods of preparation and use
INVENTOR(S):             Daniloff, George Y.; Ngo, Michael Huy; Trollsas,
                         Olof Mikael; Gravett, David M.; Toleikis, Philip
                         M.
PATENT ASSIGNEE(S):      Angiotech Biomaterials Corporation, USA
SOURCE:                  PCT Int. Appl., 214 pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  17
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
     ----------------    ----   --------    --------------------
     --------
     WO 2006034128        A2    20060330    WO 2005-US33367
                                                                   200509
                                                                   19
     WO 2006034128        C1    20060615
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
             CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
             GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
             KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK,
             MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
             RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
             IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
             ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.:                    US 2004-611077P     P
                                                                   200409
                                                                   17

AB   Multifunctional compds. are provided that readily crosslink in situ
     to provide crosslinked biomaterials.  The multifunctional compds.
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contain a single component having at least three reactive functional groups thereon, with the functional groups selected so as to be non-reactive in an initial environment and inter-reactive in a modified environment. Reaction of a plurality of the multifunctional compds. results in a three-dimensional crosslinked matrix. In one embodiment, a first functional group is nucleophilic, a second functional group is electrophilic, and at least one addnl. functional group is nucleophilic or electrophilic. Methods for prepg. and using the multifunctional compds., and kits including the multifunctional compds. are also provided. Exemplary uses for the multifunctional compds. include tissue augmentation, biol. active agent delivery, bioadhesion, and prevention of adhesions following surgery or injury. For example, 50 mg of a multifunctional PEG compd. (prepn. given) and 10% paclitaxel-loaded methoxy-polyethylene glycol 5000-block-poly(DL-lactide) (65:35) microspheres prepd. by spray drying (0.5 or 2 μ in diam.) were mixed in a syringe with 0.25 mL of a 6.3 mM HCl soln. (pH 2.1) and a buffer contg. 0.35 mL 0.24 M monobasic sodium phosphate and 0.4 M sodium carbonate (pH 10.0) and applied to a tissue surface.

IT **9012-76-4, Chitosan**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 38

IT **Fibrosis**
(agents for induction of; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)

IT Chemokine receptors
Endothelin receptors
Fibrinogens
Interleukin 4
Monocyte chemoattractant protein-1
Retinoic acid receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antagonists; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)

IT Cell migration
Cell proliferation
(**fibroblast**, inhibitors of; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)

IT **Coating materials**
(for implants; multifunctional polymers forming three-dimensional crosslinked biomaterial)
IT **Fibroblast**
(migration of, inhibitors of; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)
IT Anthracyclines
Bone morphogenetic proteins
Estrogens
Fibronectins
Glass, biological studies
Interleukin 1β
Interleukin 6
Interleukin 8
Platelet-derived growth factors
Polyanhydrides
Polyphosphazenes
Polysiloxanes, biological studies
Polyurethanes, biological studies
Silicates, biological studies
Taxanes
Transforming growth factors
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)
IT **Fibroblast**
(proliferation, inhibitors of; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)
IT Protein **hydrolyzates**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(silk; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)
IT 62031-54-3, **Fibroblast** growth factor
RL: BSU (Biological study, unclassified); DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(and inhibitors; multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)
IT 50-02-2, Dexamethasone 50-28-2, Estra-1,3,5(10)-triene-3,17-diol (17β)-, biological studies 50-53-3, biological studies 55-21-0, Benzamide 55-86-7, Nitrogen mustard 56-53-1 65-46-3D, Cytidine, analogs 79-10-7D, Acrylic acid, derivs., polymers 79-41-4D, Methacrylic acid, derivs., polymers 98-92-0, Nicotinamide 120-73-0D, Purine, analogs 127-07-1, Hydroxyurea 289-95-2D, Pyrimidine, analogs 302-79-4, ATRA 471-34-1, Calcium carbonate, biological studies 518-28-5, Podophyllotoxin

675-21-8D, 5-Fluoropyrimidine, analogs 1306-06-5, Hydroxyapatite 1404-00-8, Mitomycin 4759-48-2, Isotretinoin 7440-06-4D, Platinum, compds. 7631-86-9, Silica, biological studies 7689-03-4, Camptothecin 7761-88-8, Silver nitrate, biological studies 7778-18-9, Calcium sulfate 9002-72-6, Growth hormone 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene 9004-34-6, Cellulose, biological studies 9004-34-6D, Cellulose, esters 9004-61-9, Hyaluronic acid 9005-25-8, Starch, biological studies 9005-32-7, Alginic acid 9011-14-7, Poly(methyl methacrylate) **9012-76-4, Chitosan** 9061-61-4, NGF 11056-06-7, Bleomycin 13010-20-3, Nitrosourea 13598-36-2D, Phosphonic acid, alkylidenebis- derivs. 14807-96-6, Talc, biological studies 19542-67-7, Bay 11-7082 23047-11-2, Mycophenolic acid disodium salt 23214-92-8, Doxorubicin 24280-93-1, Mycophenolic acid 25104-18-1, Polylysine 26780-50-7, Glycolide-lactide copolymer 30562-34-6, Geldanamycin 32222-06-3, 1α-25-Dihydroxyvitamin D3 33069-62-4, Paclitaxel 33419-42-0, Etoposide 34031-32-8, Auranofin 36877-68-6, Nitroimidazole 38000-06-5, Polylysine 50903-99-6, L-NAME 51110-01-1D, Somatostatin, analogs 53123-88-9, Sirolimus 59865-13-3, Cyclosporine A 61318-90-9, Sulconazole 65271-80-9, Mitoxantrone 83869-56-1, GM-CSF 98629-43-7, Gusperimus 104987-11-3, Tacrolimus 106096-93-9, BFGF 127464-60-2, VEGF 137071-32-0, Pimecrolimus 141392-23-6 152121-30-7, SB 202190 159351-69-6, Everolimus 189460-40-0, Connective tissue growth factor 221877-54-9, ABT 578 851536-75-9
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multifunctional polymers forming three-dimensional crosslinked biomaterial for drug delivery)

L20 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:493530 HCAPLUS
DOCUMENT NUMBER: 143:32415
TITLE: Soft tissue implants and anti-scarring agents
INVENTOR(S): Hunter, William L.; Gravett, David M.; Toleikis, Philip M.; Maiti, Arpita
PATENT ASSIGNEE(S): Angiotech International A.-G., Switz.
SOURCE: PCT Int. Appl., 2592 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 17
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2005051444 A2 20050609 WO 2004-US39465
200411
22

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2005148512 A1 20050707 US 2004-986230
200411
10

US 2005181977 A1 20050818 US 2004-986231
200411
10

AU 2004293075 A1 20050609 AU 2004-293075
200411
22

CA 2536192 AA 20050609 CA 2004-2536192
200411
22

WO 2005051232 A2 20050609 WO 2004-US39346
200411
22

WO 2005051232 A3 20051208

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2006055008 A2 20060526 WO 2004-US39353
200411
22

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

EP 1687041	A2	20060809	EP 2004-812062	20041122

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU

US 2005149158	A1	20050707	US 2004-409	20041129
US 2005175662	A1	20050811	US 2004-451	20041129
US 2005175661	A1	20050811	US 2004-999205	20041129
US 2005186243	A1	20050825	US 2004-97	20041129
US 2005186242	A1	20050825	US 2004-999204	20041129
US 2005191331	A1	20050901	US 2004-1419	20041130
US 2005175663	A1	20050811	US 2004-1791	20041202
US 2005181008	A1	20050818	US 2004-1786	20041202
US 2005181011	A1	20050818	US 2004-1792	20041202
US 2005143817	A1	20050630	US 2004-6899	200412

US 2005177103	A1	20050811	US 2004-631407	20041207
US 2005177225	A1	20050811	US 2004-689507	20041207
US 2005181004	A1	20050818	US 2004-628907	20041207
US 2006147492	A1	20060706	US 2006-343809	20060131
PRIORITY APPLN. INFO.:			US 2003-523908P	P 20031120
			US 2003-524023P	P 20031120
			US 2003-525226P	P 20031124
			US 2003-526541P	P 20031203
			US 2004-578471P	P 20040609
			US 2004-586861P	P 20040709
			US 2004-986230	A 20041110
			US 2004-986231	A 20041110
			US 2003-518785P	P 20031

			10
	US 2004-582833P	P	200406 24
	US 2004-986450	A1	200411 10
	WO 2004-US39465	W	200411 22

AB The invention relates to soft tissue implants for use in cosmetic or reconstructive surgery and to compns. to make the implants resistant to growth by inflammatory scar tissue. Thus, a silicone gel contg. paclitaxel was used as a filling in breast implant.

IT **9012-76-4, Chitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soft tissue implants and anti-scarring agents)

RN 9012-76-4 HCAPLUS

CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM A61L027-00
ICS A61L027-54; A61L031-00; A61L031-16

CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 1, 62

IT Cytokines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**Fibroblast** stimulating factor 1; soft tissue implants and anti-scarring agents)

IT Lymphokines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**Fibrosin**; soft tissue implants and anti-scarring agents)

IT Abdomen
Adhesion, biological
Adipose tissue
Angiogenesis
Angiogenesis inhibitors
Anti-inflammatory agents
Antimicrobial agents
Antioxidants
Cell proliferation
Cheek

Coating materials
Connective tissue
Cosmetics
Dissolution
Dyes
Extracellular matrix
Fibroblast
Fibrosis
Fungicides
Immunomodulators
Immunosuppressants
Infection
Inflammation
Jaw
Leukotriene antagonists
Medical goods
Mycosis
Physiological saline solutions
Pigments, nonbiological
Platelet aggregation inhibitors
Preservatives
Silk
Skin
Solubilizers
Solvents
Surfactants
Surgery
Textiles
(soft tissue implants and anti-scarring agents)

IT 80449-01-0, DNA topoisomerase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ATP **hydrolyzing** inhibitors; soft tissue implants and anti-scarring agents)

IT 50-02-2, Dexamethasone 50-28-2, Estradiol, biological studies 51-45-6, Histamine, biological studies 56-53-1, Diethyl stilbestrol 57-50-1D, Sucrose, derivs. 62-55-5, Thioacetamide 64-17-5, Ethanol, biological studies 79-10-7D, Acrylic acid, esters, polymers 100-42-5D, Styrene, polymers 106-99-0D, Butadiene, polymers 123-78-4 302-79-4, all-trans-Retinoic acid 302-79-4D, Retinoic acid, derivs. 361-37-5 471-34-1, Calcium carbonate, biological studies 1306-06-5, Hydroxylapatite 1332-37-2, Iron oxide, biological studies 1404-04-2, Neomycin 4759-48-2, Isotretinoin 7439-89-6, Iron, biological studies 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7440-25-7, Tantalum, biological studies 7440-26-8, Technetium, biological studies 7440-39-3, Barium, biological studies 7440-39-3D, Barium, compds. 7440-41-7,

Beryllium, biological studies 7440-47-3, Chromium, biological studies 7440-50-8, Copper, biological studies 7440-54-2D, Gadolinium, chelates 7631-86-9, Silica, biological studies 7778-18-9, Calcium sulfate 9002-72-6, Growth hormone 9002-86-2, PVC 9003-07-0, Polypropylene 9003-39-8, Plasdone K 90D 9004-61-9, Hyaluronic acid 9011-14-7, Poly(methyl methacrylate) **9012-76-4**, **Chitosan** 9061-61-4, NGF 10103-46-5, Calcium phosphate 11096-26-7, Erythropoietin 12441-09-7D, Sorbitan, esters 12619-70-4, Cyclodextrin 14807-96-6, Talc, biological studies 15802-18-3D, CyanoAcrylic acid, esters, polymers 24980-41-4, Polycaprolactone 25248-42-4, Polycaprolactone 25322-68-3, Polyethylene glycol 25614-03-3, Bromocriptin 26009-03-0, PolyGlycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid) 26124-68-5, PolyGlycolic acid 26354-94-9, Polyvalerolactone 26499-05-8, Polyvalerolactone, SRU 34346-01-5, Glycolic acid-lactic acid copolymer 50903-99-6, L-Name 51110-01-1D, Somatostatin, analogs 59865-13-3, Cyclosporin A 61912-98-9, Insulin-like growth factor 64612-25-5, Fucan 81627-83-0, Macrophage Colony-stimulating factor 83869-56-1, Granulocyte-macrophage Colony-stimulating factor 99896-85-2 114949-22-3, Activin 123626-67-5, Endothelin 1 125265-78-3, N-Carboxybutyl **Chitosan** 127464-60-2, VEGF 143011-72-7, Granulocyte Colony-stimulating factor 154467-38-6 169501-65-9 188492-68-4 189460-40-0, Connective tissue growth factor 250740-90-0, Angiopoietin 302781-03-9 681125-91-7, Epithilone B 698393-66-7, Isobutylene-styrene triblock copolymer
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soft tissue implants and anti-scarring agents)

L20 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:281679 HCAPLUS
DOCUMENT NUMBER: 142:356293
TITLE: Environmentally responsive polymeric system for biomedical applications
INVENTOR(S): Cohn, Daniel; Sosnik, Alejandro
PATENT ASSIGNEE(S): Yissum Research Development Company of the Hebrew University of Jerusalem, Israel
SOURCE: U.S. Pat. Appl. Publ., 19 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 2005069573 A1 20050331 US 2004-845476 20040512

PRIORITY APPLN. INFO.: IL 2003-155866 A 20030312

AB Title environmentally responsive polymeric system comprises a silicon-contg. reactive groups which undergo a **hydrolysis**-condensation reaction at a predetd. body site and thereby change rheol. and mech. properties of the polymeric system. The polymeric system is useful as a sealant, as a matrix for drug delivery, in the prevention of post-surgical adhesions, and in gene therapy. Thus, 20.2 g polycaprolactone and 1.9 g 3-isocyanatopropyltriethoxysilane were reacted at 80° for 1 h to give a ethoxysilyl-terminated polycaprolactone, which was **hydrolysis**-condensated to give a test piece with apparent modulus 10.7 MPa.

IT **9012-76-4, Chitosan**
RL: TEM (Technical or engineered material use); USES (Uses)
(prepn. of environmentally responsive polymeric systems for biomedical applications)

RN 9012-76-4 HCAPLUS

CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM A61F002-00

INCL 424426000

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 63

ST environmentally responsive polymeric system biomedical application; polycaprolactone carbmate ester isocyanatopropyltriethoxysilane **hydrolysis** condensation

IT Biodegradable materials
Coating materials
Drug delivery systems
Gels
Gene therapy
Lubricants
Sealing compositions
(prepn. of environmentally responsive polymeric systems for biomedical applications)

IT Albumins, uses
Elastins
Fibrins
Metals, uses
RL: MOA (Modifier or additive use); USES (Uses)

(responsive polymer contg.; prepn. of environmentally responsive polymeric systems for biomedical applications)

IT 750572-13-5DP, Caprolactone-ethylene oxide triblock copolymer, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed** 836674-59-0DP, Caprolactone-tetrahydrofuran triblock copolymer, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(assumed monomers; prepn. of environmentally responsive polymeric systems for biomedical applications)

IT 24801-88-5DP, (3-Isocyanatopropyl)triethoxysilane, reaction products with polyoxyalkylenes, **hydrolyzed** 24980-41-4DP, Polycaprolactone, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed** 25248-42-4DP, Polycaprolactone, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed** 80470-73-1DP, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed** 178884-91-8DP, **hydrolyzed** 426259-43-0DP, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed** 691397-13-4DP, Pluronic F 127, reaction products with isocyanatopropyltriethoxysilane, **hydrolyzed** 848841-96-3DP, **hydrolyzed**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of environmentally responsive polymeric systems for biomedical applications)

IT 9002-89-5, Polyvinylalcohol 9003-01-4, Polyacrylic acid 9004-34-6, Cellulose, uses 9004-61-9, Hyaluronic acid 9005-32-7, Alginic acid 9012-36-6, Agarose **9012-76-4**, **Chitosan** 25249-16-5 25322-68-3, Polyethylene glycol 60529-76-2, Thymopoietin 112143-11-0, Lactic acid-ethylene oxide block copolymer 149963-18-8, Ethylene oxide-N-isopropylacrylamide block copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(prepn. of environmentally responsive polymeric systems for biomedical applications)

L20 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:77831 HCAPLUS
DOCUMENT NUMBER: 142:175654
TITLE: Molecular imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications
INVENTOR(S): Marquez-Sanchez, Manuel; Larsen, Gustavo; Akashe, Ahmad; Vu, David; Gill, Rajinder S.
PATENT ASSIGNEE(S): Kraft Foods Holdings, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005016923	A1	20050127	US 2003-624229	20030722

PRIORITY APPLN. INFO.: US 2003-624229 20030722

AB A cellulose/silica composite useful as a filter material is highly selective towards a solute that has been molecularly imprinted upon an inorg. gel coating formed on the cellulose. The filter material provides dual filtering functionality, as both a selective mol. sieve and as a particulate filter. The adsorbent filter may be made by contacting a **fibrous** material (comprising **fibers** having hydroxyl groups or **hydrolyzable** alkoxy groups) with a fluid contg. a base that dissocs. in water to generate hydroxyl ions; the surface-treated **fibers** are combined with a sol gel precursor, a gel formation solvent, and template mols., with mixing; a gel coating is formed on the **fibers**; and the template mols. are removed by washing. Thus, a molecularly imprinted paper filter for removal of caffeine from a beverage may obtained by using NaOH-treated cellulose as the **fibrous** material, the sol gel precursor is tetra-Et orthosilicate, and the template (caffeine) is removed with ethanol.

IT **9012-76-4, Chitosan**
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**fibrous** support; mol. imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications)

RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM B01D011-00
INCL 210644000; 426427000; 426495000; 210505000; 210504000; 210508000; 427244000
CC 17-4 (Food and Feed Chemistry)

Section cross-reference(s): 37, 43

IT Acetate **fibers**, uses
Polyamides, uses
Polyamines
Polysulfones, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**fibrous** support; mol. imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications)

IT **Coating materials**
(inorg. gel; mol. imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications)

IT **Fibers**
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(support materials; mol. imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications)

IT Polyamide **fibers**, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(support; mol. imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications)

IT 9004-53-9, Dextrin 9004-67-5, Methylcellulose **9012-76-4**, **Chitosan** 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Polylactic acid
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**fibrous** support; mol. imprinting of solute on cellulose/silica composites for use as decaffeinating filters or other applications)

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? show files
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File 323:RAPRA Rubber & Plastics 1972-2006/Jul
          (c) 2006 RAPRA Technology Ltd
File 347:JAPIO Dec 1976-2005/Dec(Updated 060404)
         (c) 2006 JPO & JAPIO
File 350:Derwent WPIX 1963-2006/UD=200651
         (c) 2006 The Thomson Corporation
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Set     Items   Description
S1    2803232   FIBER? OR FIBR?
S2      29984   CHITOSAN? OR AMIDAN? OR CHICOL? OR CHIROSAN? OR CHITECH? OR
                 CHITOCLEAR? OR CHITOFOS? OR CHITOLAZE? OR CHITOSOL? OR CHITO-
                SOM?
S3   21229635   PREHYDROL? OR PRETREAT? OR PRECONDITION? OR PREPROCESS? OR
                PREREACT? OR PRE(A)(HYDROL? OR TREAT? OR CONDITION? OR PROCES-
                S? OR REACT?)
S4      13638   S3 AND S2
S5       2617   PREHYDROL? OR PRE(A)HYDROL?
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MEI HUANG EIC1700 REM4B28 571-272-3952 08/16/2006

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S6            0   S4 AND S5
S7         2675   S4 AND S1
S8      2364929   COATS OR COATED OR COAT OR COATING?
S9          540   S7 AND S8
S10      638657   (MOLECUL?? OR MOL? ? OR MOLAR)(2N)(WEIGHT? ? OR WT? ? OR M-
                  ASS??)
S11          94   S9 AND S10
S12          23   S11 NOT PY=2003:2006
S13          23   RD S12  (unique items)

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? t s13/7,de/1-4


 13/7,DE/1     (Item 1 from file: 95)
DIALOG(R)File  95:TEME-Technology & Management
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01643440 20020503684
Chitosane. Des carapaces de crustaces aux tissus intelligents
(Chitosan. Von der Krabbe zum intelligenten Textil)
(Chitosan: from shellfish to intelligent fabrics)
Domard, A
Lab. d'Etude des Materiaux Polymeres et de Biomateriaux, F
L'Industrie Textile, Paris, v416, n1340, pp50-53, 2002
Document type: journal article  Language: French
Record type: Abstract
ISSN: 0019-9176

ABSTRACT:
Chitosan is a natural biodegradable, non-toxic and bio-absorbable
polymer extracted from the carapace of shellfish, a bye-product of the
canning industry. Its chemical structure and the various physical shapes it
can take offer interesting application possibilities in textiles.
Chitosan consists of co-polymers of glucosamine with
N-acetyl-glucosamine bonds. The difference between chitin and
chitosan can be seen in the solubility. Chitosan is not soluble
in any organic solvent. The molecule weight is approximately
100000 g/mol. Chitosan may be used as an additive or more directly as
a technical fibre. Its polyvalent possibilities convey a wide scope
of applications. The availability of chitosan is thus as abundant as
cellulose. It is easy to spin chitosan for the creation of new
fibres and it may be applied by coating onto fabrics in order
to improve their performance. Chitosan has inherent bacteriostatic
properties as well as anti-fungus and anti-dust mites properties, all of
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which may be conveyed to textiles items. Chitosan **monofilament has a** tenacity between 1.5 and 2 g/denier and an elastic module between 100 and 150 g/denier. The elongation at break is between 3.5 and 5 %. The tenacity may be increased to 7 g/denier by a drawing process. Chitosan fibres **can be blended with other** fibres **to reach an** antibacterial effect with reasonable costs. Chitosan **has excellent** film forming properties and can also form microcapsules.

DESCRIPTORS: BIOCOMPATIBLE MATERIALS; POLYSACCHARIDE; REGENERATED POLYMER FIBERS; **ORGANIC** FIBERS; **ANTIBACTERIAL** TREATMENT; BACTERIOSTATIC TEXTILE; BACTERIAL INHIBITION; MEDICAL TEXTILE

13/7,DE/2 (Item 2 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
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01466901 20001105326
Chitosan **in textile** processing**: an update**
(Neues zum Einsatz von Chitosan **in Textilprozessen)**
Sekar, N
UDCT Matunga, Mumbai, IND
Colourage, v47, n7, pp33-34, 2000
Document type: journal article Language: English
Record type: Abstract
ISSN: 0556-4409

ABSTRACT:
Chitosan**, a cationic polyelectrolyte, is a natural biopolymer with a** molecular structure very similar to cellulose and chitin. Chitosan **is** obtained by N-deacetylation of chitin by treatment **with alkali. On** account of its low toxicity and biocompatibility, chitosan **has been** proposed as a possible substitute for synthetic polymers. Almost all properties of chitin and chitosan **depend on two fundamental** parameters: the degree of acetylation (DA) and the molecular mass **distribution (MMD). The contrasting properties are:** Chitosan **has ready solubility in various acidic solvents, whereas** chitin is insoluble in water, and Chitosan **dissolves readily when the** electrostatic repulsions corresponding to cationic charges are more important than the attractive interactions such as hydrogen bonding or van der Waals interactions. Chitosan **has substantial affinity to** cellulosic and polyamide substrates and this property has been made use of in modifying surface properties by giving surface coatings. Chitosan **has a high affinity for a wide range of dyes and this** property has been made use of in the decolorisation of colored effluents. Owing to the weak binding of chitosan, **the application of** chitosan **as an antimicrobial finishing agent has been much**

restricted. The presence of chitosan **on protein** fibres **like** wool improves dyeability colour fastness and imparts shrink proofing properties. The treatment **of wool with an anionic surfactant enhances** the subsequent chitosan **uptake considerably. Also the binding of** chitosan **to wool is enhanced if wool is previously subjected to an** oxidative treatment **with hydrogen peroxide under alkaline** conditions **or with permonosulphuric acid followed by sodium** bisulphite. Higher shrink resistance has also been observed. Also the dye-uptake in cotton has been shown to increase if chitosan treatment **is given. The use of** chitosan **as a binder in pigment** printing instead of binders based on styrene-butadiene, styrene-acrylate or vinylacetate-acrylate copolymers has been recently examined and gives an environmental advantage. Further was observed that heat treatments **rendered** chitosan **washfast on polyester.**

DESCRIPTORS: POLYSACCHARIDE; POLYELECTROLYTE; SYNTHETIC POLYMERS; REPLACEMENT; ENVIRONMENTAL COMPATIBILITY; SURFACE TREATMENT; **TEXTILE** FINISHING; WOOL; POLYAMIDE; SEWAGE TREATMENT; **ANTIMICROBIAL AGENT;** PIGMENT PRINTING; SHRINK PROOFING TREATMENT

13/7,DE/3 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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05794209
PHOTOSENSITIVE RESIN COMPOSITION AND MEDIUM TO BE RECORDED USING CURED PRODUCT THEREOF

PUB. NO.: 10-077309 [JP 10077309 A]
PUBLISHED: March 24, 1998 (19980324)
INVENTOR(s): YOSHIDA KENJI
TOKUDA KIYOHISA
ISHII KAZUHIKO
APPLICANT(s): NIPPON KAYAKU CO LTD [000408] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 08-246960 [JP 96246960]
FILED: August 30, 1996 (19960830)
JAPIO CLASS: 14.2 (ORGANIC CHEMISTRY -- High Polymer Molecular Compounds); 14.7 (ORGANIC CHEMISTRY -- Coating **Material Adhesives);** 15.3 (FIBERS **-- Paper & Pulp); 29.4 (PRECISION** INSTRUMENTS -- Business Machines)
JAPIO KEYWORD: R005 (PIEZOELECTRIC FERROELECTRIC SUBSTANCES); R042 (CHEMISTRY -- Hydrophilic Plastics); R044 (CHEMISTRY -- Photosensitive Resins); R102 (APPLIED ELECTRONICS -- Video Disk Recorders, VDR); R105 (INFORMATION PROCESSING -- Ink Jet Printers); R113 (CHEMISTRY -- Pullulam

Polysaccharides); R124 (CHEMISTRY -- Epoxy Resins); R125 (CHEMISTRY -- Polycarbonate Resins)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain the subject composition excellent in curl resistance, carrying property and water resistance and useful as an ink receiving layer by including an ethylenically unsaturated group-containing compound, etc., as essential components.

SOLUTION: This photosensitive resin composition contains (A) an ethylenically unsaturated group-containing compound, preferably a hydrophilic monomer, (B) saccharides, preferably chitosan, **especially** preferably a salt of the chitosan **with an organic acid, having** 200-100,000 average molecular weight, **in an amount of 1-50wt.%** (C) a photopolymerization initiator and (D) a filler as essential components and further preferably contains (E) a polymer containing tertiary nitrogen, especially polydimethyl acrylamide or polyvinylpyrrolidone.

13/7,DE/4 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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04840989
ANTIMICROBIAL FIBER **AND METHOD OF ANTIMICROBIAL** TREATMENT **THEREOF**

PUB. NO.: 07-133589 [JP 7133589 A]
PUBLISHED: May 23, 1995 (19950523)
INVENTOR(s): YOSHIKAWA TAKESHI
TSURUYA KATSUMASA
UMEYAMA KANETOSHI
ONOZAKI TOSHIO
KUWAMURA SHINICHI
YOSHINO FUMIO
APPLICANT(s): TOCHIGI PREF GOV [400018] (A Japanese Government or Municipal Agency), JP (Japan)
DAINIPPON INK & CHEM INC [000288] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-005190 [JP 925190]
FILED: January 14, 1992 (19920114)
JAPIO CLASS: 15.9 (FIBERS -- **Other); 14.2 (ORGANIC CHEMISTRY -- High** Polymer Molecular Compounds); 14.4 (ORGANIC CHEMISTRY -- Medicine)
JAPIO KEYWORD:R013 (MICROCAPSULES); R124 (CHEMISTRY -- Epoxy Resins)

ABSTRACT

PURPOSE: To obtain an antimicrobial fiber **having a high washing** resistance, by coating **a compounded material of a** chitosan **with** a high polymer on the surface of a fiber.

CONSTITUTION: An antimicrobial fiber **having a long lasting** antimicrobial property and a high washing resistance, is obtained by coating **a composition of a** chitosan **with a high polymer, which** is prepared by physically (without making chemical bondings) compounding a chitosan **decomposition product made by decomposing a high** molecular weight chitosan **by an enzyme like a cellulase,** etc., with a high polymer, e.g. an acrylic resin type, a polyester resin type, a polyurethane type, etc., homogeneously into one, together with an organic binder on the surface of a fiber, **and by giving a heat** treatment. **Also, it is possible to obtain an antimicrobial** fiber **by melt** coating **with heating of the above composition** after powdering it.

? t s13/34/5-23

13/34/5 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0012505648
WPI ACC NO: 2002-453569/200248
Injectable naturally secreted extracellular matrix composition for treating **tissue defects e.g. hemifacial microsomia, Romberg's** disease, comprises human naturally secreted extracellular matrix and carrier
Patent Assignee: ADVANCED TISSUE SCI INC (ADTI-N)
Inventor: NAUGHTON G K
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20020038152	A1	20020328	US 1995470101	A	19950606	200248 B
			US 1996660787	A	19960606	
			US 2001948379	A	20010907	

Priority Applications (no., kind, date): US 1996660787 A 19960606; US 1995470101 A 19950606; US 2001948379 A 20010907

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020038152	A1	EN	18	2	C-I-P of application US 1995470101

Continuation of application US

1996660787

C-I-P of patent US 5830708

Alerting Abstract US A1

NOVELTY - An injectable naturally secreted extracellular matrix composition (I) for the treatment **of tissue defects comprising a** human naturally secreted extracellular matrix and a carrier, is new.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.producing (M1) naturally secreted extracellular matrix coated **three-dimensional framework involves culturing cells on a** three-dimensional framework under conditions **favorable for** cellular growth for a pre-determined time period such that an extracellular matrix is secreted onto the inoculated framework creating a coated **framework; killing the cells; and removing the cells and** cellular debris;

2.producing (M2) a naturally secreted extracellular matrix involves carrying out the above mentioned steps of (M1), and collecting the extracellular matrix deposited on the coated **framework; and**

3.a composition comprising a three-dimensional framework which is coated **with a naturally secreted extracellular matrix composed of** human proteins.

ACTIVITY - Vulnerary.

MECHANISM OF ACTION - Promoter of connective tissue deposition angiogenesis, reepithelialization and fibroplasia. **No supporting data** is given

USE - For producing a naturally secreted extracellular matrix coated **three-dimensional framework made from a material such as** polyamide, polyester, polystyrene, polypropylene, polyacrylates, polyvinyl compounds, polycarbonate, polytetrafluorethylene, thermanox, nitrocellulose, cotton, polyglycolic acid, catgut suture material, cellulose, gelatin, chitosan, **hyaluronic acid or dextran. (I) is** useful for repairing tissue defects (all claimed). (I) is useful for treatment **and repair of soft tissue and skin defects such as wrinkles** and scars. (I) is useful for repairing or correcting acquired defects or cosmetic defects e.g., congenital anomalies as hemifacial microsomia, malar and zygomatic hypoplasia, unilateral mammary hypoplasia, pectus excavatum, pectoralis agenesis (Poland's anomaly); acquired defects (post-traumatic, post-surgical, post-infectious) such as depressed scars, subcutaneous atrophy (e.g., secondary to discoid lupus erythematosus), keratotic lesions, enophthalmos in the unucleated eye (also superior sulcus syndrome), acne pitting of the face, inner scleroderma with subcutaneous atrophy, saddle-nose deformity, Romberg's disease and unilateral vocal cord

paralysis; and cosmetic defects such as glabellar frown lines, deep nasolabial creases, circum-oral geographical wrinkles, sunken cheeks and mammary hypoplasia, by promoting connective tissue deposition angiogenesis, reepithelialization and fibroplasia.

ADVANTAGE - The naturally secreted extracellular matrix preparations are biocompatible and biodegradable. The injectable preparations contain only human proteins, and thus have reduced risk of an immune response due to foreign proteins or peptides, persist longer, and so multiple injections are not necessary. (I) contains a mixture of extracellular matrix proteins which closely mimic the compositions of physiologically normal condition, **e.g., in an extracellular matrix derived from dermal** cells, type I and type II collagen, hyaluronic acid as well as various glycosaminoglycans and natural growth factors are present. The cells grown on three-dimensional framework support grow in multiple layers, forming a cellular matrix which approaches physiological conditions **found ~in** vivo ~ to a greater degree than the conventional monolayer tissue culture system. Growth of stromal cells in three-dimensions sustain active proliferation of cells in culture for much longer time periods than the monolayer systems. Further the three-dimensional system supports the maturation, differentiation and segregation of cells in culture ~in vitro ~ to form components of adult tissues analogous to counterparts found ~in vivo ~.

Technology Focus

BIOTECHNOLOGY - Preferred Method: In (M1), the three-dimensional framework has pore spaces of 150-220 micro M. The extracellular matrix is secreted by tissue specific cells such as fibroblasts, **osteoblasts,** odontoblasts, chondrocytes, epithelial cells, smooth muscle cells, retinal cells, endothelial cells, stromal cells or their combinations.

Preferred Composition: (I) is prepared by a process **which involves** carrying out step of (M2) and processing **the collected extracellular** matrix with a carrier. Preferably, the naturally secreted matrices secreted by different tissue or cell types are mixed between the collection and processing **steps such that ratios of collagen types I-V respective to** each other are adjusted.

Extension Abstract

ADMINISTRATION - (I) is administered intradermally, or subcutaneously, or is injected into internal tissues such as tissues defining body sphincters to augment such tissues. No specific clinical dosages are given.

EXAMPLE - Samples of oral mucosal tissue were obtained from orthodontic surgical specimens. Tissue was washed three times with fresh modified Eagle's medium (MEM) containing antibodies cut into small pieces, then washed with 0.02% ethylene diaminetetraacetate (EDTA) (w/v), 0.25% trypsin (in phosphate buffered saline (PBS) without Ca++ or Mg++) was added; after a few seconds, the tissue pieces were removed and placed in fresh trypsin (in PBS without Ca++ or Mg++) and refrigerated at 4 (deg) C overnight.

Tissues were removed and placed in fresh trypsin solution, and gently agitated until cell appeared to form a single-cell suspension. The single-cell suspension was then diluted in MEM containing 10% heat inactivated fetal bovine serum and centrifuged. The supernatant was decanted and the pellet containing mucosal epithelial cells was placed into seeding medium. Medium consisted of Dulbecco's MEM (DMEM) with 2% Ultrosen G, 1x L-glutamine, 1x non-essential amino acids, penicillin and streptomycin. The cells were seeded onto a three-dimensional framework. The three-dimensional stromal culture was generated using oral fibroblasts **and 8 mm x 45 mm pieces of nylon filtration screen. The** mesh was soaked in 0.1 M acetic acid for 30 minutes ad treated **with** 10 nM polylysine suspension for 1 hour. The meshes were placed in a sterile Petri dish and inoculated with 1 x 10 to the power of 6 oral fibroblasts **collected as described above in DMEM complete medium.** After 1-2 hours of incubation at 5% CO2 the meshes were placed in a Corning 25 cm2 tissue culture flask, floated with an additional 5 ml of medium, and allowed to reach subconfluence, being fed at 3 day intervals. Cultures were maintained in DMEM complete medium at 37 (deg) C and 5% CO2 in a humidified atmosphere and were fed with fresh medium every 3 days. The extracellular matrix contained type I and type II collagens, fibronectin, **tenascin,** sulfated glycosaminoglycans, decorin and various other secreted human extracellular matrix proteins. Additionally, the secreted matrix proteins were found throughout the three-dimensional support framework. The extracellular matrix contained a total protein amount of 292 mg/cm2 +/- 0.06; fibronectin **was present at 3.4 mg/cm2 +/- 1.2; and tenascin at** 1.7 mg/cm2 +/- 0.6. Both fibronectin **and tenascin showed the expected** molecularweight **distributions on immunoblots.**

Class Codes
International Classification (Main): A61F-002/02
US Classification, Issued: 623023720

13/34/6 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010597324
WPI ACC NO: 2001-202642/
Biocompatible coating **platform for medical devices with e.g.** antithrombogenic activity, can be used to coat **heterologous surfaces** and can bind biologically active molecules
Patent Assignee: EDWARDS LIFESCIENCES CORP (EDWA-N)
Inventor: HSU L; HSU L C; HU C B; TONG S; TONG S D
Patent Family (3 patents, 92 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update

WO 2001008718	A1	20010208	WO 2000US20093	A	20000724	200120	B
AU 200063687	A	20010219	AU 200063687	A	20000724	200129	E
US 6309660	B1	20011030	US 1999362468	A	19990728	200172	E

Priority Applications (no., kind, date): US 1999362468 A 19990728

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2001008718	A1	EN	40	0	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Regional Designated States,Original: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200063687	A	EN	Based on OPI patent	WO 2001008718

Alerting Abstract WO A1

NOVELTY - Universal, biocompatible coating **platform for medical** articles includes (i) a polyelectrolyte molecular film and (ii) a cross-linked interpenetrating network (IPN) which includes a multifunctional polymer and a cross-linking agent (CA).

DESCRIPTION - Universal, biocompatible coating **platform for the** surface of an article intended to contact physiological fluids or tissues, comprises: (a) a molecular film which has a first water-soluble, biocompatible polymer (P1) ionically bound to a second water-soluble, biocompatible polymer (P2); and (b) a cross-linked, interpenetrating network (IPN) which has (i) at least one multifunctional, biocompatible polymer (P3) and (ii) at least one cross-linking agent (CA), covering the molecular film.

ACTIVITY - Thrombolytic.

MECHANISM OF ACTION - None given.

USE - The coating **platforms can be used to** coat **articles** intended for contact with physiological fluids or tissues, e.g. contact lenses, ocular implants, catheters, medical tubing, cardiotomy reservoirs and heaters, extracorporeal blood circuits, heart valves, stents, pacemaker units, synthetic organs, artificial hips or joint prostheses.

ADVANTAGE - The platforms can be used to coat **medical devices with** heterologous surfaces, e.g. combinations of polymers, metals and glasses. They can be used to bind a variety of different biologically active molecules to the surfaces while retaining the activities of these molecules.

Technology Focus

PHARMACEUTICALS - Preferred Materials: The platform can also comprise a biocompatible, biologically active molecule ionically bound to the surface of the IPN. This active molecule is especially selected from dextran,

dextran salts, cyclodextrans, chondroitin, chondroitin salts, chitosan, **chitin derivatives, dermatan salts, starch, starch** derivatives, pectin, glycosaminoglycans, alginates, agar, gum, fructose, heparin and heparin salts. Alternatively, the IPN can include at least one biologically active compound. This compound is, e.g., a protease inhibitor, antibacterial agent, antiparasitic agent, antiviral agent, antifungal agent, amoebicidal agents, antihistamine, antigen, anti-inflammatory, chelating agents, anticholinergic agent, immunoglobulin, ophthalmic agent, antimetabolite, anesthetic, immunosuppressive agent, analgesic, antiasthmatic agent, anticoagulant. antithrombogenic agent, anticonvulsant, antidepressant, antidiabetic agent, antineoplastic, antipsychotic agent, antihypertensive agent, muscle relaxant, protein, peptide, hormone or lubricating agent.

POLYMERS - Preferred Materials: P1 is a polycation selected from polyethyleneimine, polyacrylamide, polymers of dimethylaminoethylmethacrylate, polymers of ammonio methacrylate and copolymers of dimethylaminoethylmethacrylate and ammonio methacrylate. P2 is a polyanion selected from dextran, dextran salts, cyclodextrans, chondroitin, chondroitin salts, chitosan, **chitin derivatives,** dermatan salts, starch, starch derivatives, pectin, glycosaminoglycans, alginates, agar, gum, fructose, heparin and heparin salts. P3 is a polycation which is selected from those given above for P1. The cross-linking agent is selected from epoxides, isocyanates, aldehydes and carbodiimides, e.g., glycidyl esters, erythritol anhydride, polyglycerol polyglycidyl ether, terephthalic acid diglycidyl ester, toluene diisocyanate, dicyclohexylmethane diisocyanate, dicyclohexylcarbodiimide, formaldehyde or glutaraldehyde. Preparation: The platform can be prepared by a claimed process **comprising: (a) applying P1 to the surface of** the article; (b) applying P2 to the surface of the article; and (c) applying a mixture of P3 and at least one CA to the surface.

Extension Abstract

EXAMPLE - A polypropylene hollow fiber **oxygenator was filled with a** solution of 0.05% (wt./vol.) polyethyleneimine in boric/borax buffer (pH 8.8), then drained. The oxygenator was then thoroughly rinsed with deionized water, then filled with a solution of 0.5% (wt./vol.) chondroitin sulfate in 0.15 N NaCl, drained and rinsed with deionized water. The oxygenator was then filled with a mixture of 0.05% (wt./vol.) polyethyleneimine (molecular weight **25000) and 0.5% (wt./vol.)** ethylene glycol diglycidol ether in boric/borax buffer and held at room temperature for 30 minutes. The mixture was then drained from the oxygenator and rinsed thoroughly with deionized water. The oxygenator was then filled with a solution of 0.5% (wt./vol.) sodium heparin in 0.15 N NaCl (pH 3), drained and rinsed thoroughly. The coated **oxygenator was** then dried in an oven at 140(deg)F for 2 hours. In tests, thrombogenic indices (e.g. thrombin-antithrombin levels and platelet factor four levels) were significantly lower in a test circuit which included the oxygenator

coated **as above, as compared to blood circulated in a control circuit** without an antithrombogenic coating. **The reduction in platelet counts** during blood circulation was also significantly less in the test circuit compared to the control circuit, indicating better platelet preservation and less platelet adhesion in the coated **oxygenator.**

Class Codes
International Classification (Main): A61F-002/02, A61L-033/00
(Additional/Secondary): A01N-001/00, A61K-047/30
US Classification, Issued: 424425000, 514772300, 523112000

13/34/7 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010501278
WPI ACC NO: 2001-102196/
Polymeric composition for promoting angiogenesis comprises polyanions, polycations, small cations and one or more proteins
Patent Assignee: UNIV VANDERBILT (UYVA-N)
Inventor: DAVIDSON J M; DIKOV M M; PROKOP A; WILLIAMS P
Patent Family (3 patents, 23 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2000064954	A1	20001102	WO 2000US10698	A	20000419	200111 B
AU 200044766	A	20001110	AU 200044766	A	20000419	200111 E
US 6383478	B1	20020507	US 1999130615	P	19990422	200235 E
			US 2000556743	A	20000421	

Priority Applications (no., kind, date): US 2000556743 A 20000421; US 1999130615 P 19990422

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2000064954	A1	EN	43	0	

National Designated States,Original: AU CA CN JP
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

AU 200044766	A	EN	Based on OPI patent WO 2000064954
US 6383478	B1	EN	Related to Provisional US 1999130615

Alerting Abstract WO A1
NOVELTY - Polymeric composition comprises at least two polyanions, one or more polycations, one or more small cations selected from sodium, potassium or calcium, and one or more proteins comprising angiogenic stimulating factors, growth factors or extracellular matrix proteins.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.a method of stimulating vascularization around cells transplanted into an individual comprising: (a) encapsulating the cells in a polymeric composition as above where the protein is vascular endothelial growth factor, angiopoietin, fibroblast **growth factors or transforming** growth factor beta; and (b) implanting the encapsulated cells into the individual;

2.a method of accelerating wound healing comprising placing the above composition in proximity to a wound;

3.a method of using a dialysis process **to make a** polyanionic/polycationic polymeric composition comprising: (a) introducing a polyanion solution into a dialysis cassette; (b) immersing the cassette in a stirred reactor containing polycation solution; and (c) allowing dialysis to proceed for a time to allow formation of the polyanionic/polycationic polymer composition;

4.a method of neutralizing the positive charge present on the surface of the polyanionic/polycationic polymer composition used in the above dialysis method, where the composition is neutralized in charge by coating **with a dilute anionic polymer solution comprising** alginate or carboxymethylcellulose;

5.a method for coating **prefabricated materials with polymer** containing an angiogenic stimulating factor comprising: (a) applying a coat **of a polyanion solution to the material where the solution** contains an angiogenic stimulating factor; (b) allowing the polyanion coat **to dry; (c) applying a** coat **of a polycation solution** to the material; (d) allowing the polycation coat **to dry; and (e)** sequentially repeating steps (a)-(b);

6.an assembly for the implantation of non-human animal cells in an individual comprising microcapsules of cells attached to a support material where the assembly has been coated **with an angiogenic** stimulating factor by the above method.

ACTIVITY - Vulnerary; angiogenetic.
MECHANISM OF ACTION - None given.
USE - For promoting angiogenesis and encouraging capillary network development while inhibiting or eliminating growth of the dense and impermeable fibrotic **cellular structures that are often associated** with implant failure. For stimulating vascularization around cells transplanted into a patient, accelerating wound healing and for coating **prefabricated materials**
ADVANTAGE - The products have adequate mechanical strength and exhibit

exceptional permeability and surface characteristics.

Technology Focus

ORGANIC CHEMISTRY - Preferred Compounds: The polyanions comprise kappa carrageenan, low-esterified pectin, polyglutamic acid, carboxymethylcellulose, chondroitin sulfate-6, chondroitin sulfate-4, collagen, high viscosity sodium alginate or cellulose sulfate, preferably a combination of high viscosity sodium alginate and cellulose sulfate. The polycations are polyvinylamine, spermine hydrochloride, protamine sulfate, polyethyleimine, polyethyleimine-ethoxylated, polyethyleimine-epichlorohydrin modified, quaternized polyamide, polydiallyldimethyl ammonium chloride-c-acrylamide, low molecular weight chitosan, **poly(methylene-co-guanidine) or calcium** chloride, preferably a combination of poly(methylene-co-guanidine)hydrochloride and calcium chloride.

Preferred Composition: The solution comprises 1.0%w/v polycation. The protein is incorporated into the polymeric composition by adding the protein to the polyanion solution. The basic fibroblast **growth factor** is present at a concentration of 0.1-15 microg/ml and the platelet derived growth factor is present at 1-20 microg/ml. The dilute anionic polymer solution is at a concentration of 0.1%W/V.

Preferred support: The support material comprises retrievable polymeric mesh or perforated tubing.

Preferred Protein: The protein is an angiogenic stimulating factor comprising vascular endothelial growth factor, angiopoietin, fibroblast **growth factors or transforming growth factor beta,** platelet derived growth factor or an extracellular matrix comprising heparin, heparan sulfate, hyaluronic acid, fibronectin, **perlecan or** laminin.

BIOLOGY - Preferred Method: The method (1) further comprises prevascularizing the retrievable protein composition in the individual for at least 2 weeks prior to implanting the encapsulated cells. The retrievable composition is preferably a mesh or a capsule. The cells are preferably pancreatic islet cells. The composition further comprises a growth factor, preferably incorporated and implanted along with the microencapsulated pancreatic islet cells. The growth factor is incorporated in the form of a polymeric film, microcapsules or nanoparticles and is cross linked via Schiff-base polydextran aldehyde complex to the protein composition. The microencapsulated pancreatic islet cells and nanoparticulate FGF are implanted in a capsule in the peritoneum of the kidney. For wound healing the growth factor is platelet derived growth factor or the polymeric composition comprises a film containing fibroblast **growth factors, nanoparticles of** fibroblast **growth** factors or fibroblast **growth factor hydrogel**-coated, bioresorbable film for wound healing. The fibroblast **growth factor is** cross linked to the polymer composition via polydextran aldehyde.

Extension Abstract
ADMINISTRATION - By implantation.
EXAMPLE - Film implants loaded with 10 microg/ml film volume PDGF were cut into 8mm discs containing 3.4 microgPDGF/disc. Sprague-Dawley rats were incised externally and the delivery vehicle was placed at the bas of the wound then closed over with Michel wound clips. Each rat contained 3 test sites and 1 control site. The collected data indicated that the wound healing was accelerated by 50% over the control in the presence of PDGF.

Class Codes
International Classification (Main): A61K-031/74, C08F-016/06
(Additional/Secondary): C08F-116/06, C08F-216/06, C08G-018/00, C08G-063/48, C08G-063/91, C12N-011/00, C12N-011/02, C12N-011/04, C12N-011/08, C12N-011/10, C12N-011/12, C12N-011/16
US Classification, Issued: 424078080

13/34/8 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010002951
WPI ACC NO: 2000-306906/
Fiber **having deodorizing property contains polymeric component and** acidic radical containing amino group or its salt
Patent Assignee: KAO CORP (KAOS)
Inventor: HASEBE Y; KUWABARA K; YASUMURA T
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 2000080569	A	20000321	JP 1998253711	A	19980908	200027 B

Priority Applications (no., kind, date): JP 1998253711 A 19980908

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 2000080569	A	JA	5	0	

Alerting Abstract JP A
NOVELTY - Fiber **has deodorizing base containing components (A,B).** Component A is a polymeric substance and component (B) is an acidic radical containing an amino group and/or its salt.
DESCRIPTION - An INDEPENDENT CLAIM is also included for the manufacture of deodorizing fiber **which involves contacting deodorizing base** particle on fiber **surface or immersing** fiber **in water and/or** organic solution containing base particles.
USE - Used as deodorizer.

ADVANTAGE - The fiber **has good deodorizing effect.**

Technology Focus
POLYMERS - Preferred Components: The fiber **contains a composite of:**

1.chitosan **and**

2.polyacrylic acid, polymethacrylic acid and/or its salt.

Preferred **Process: The polymerizable monomer in deodorizing base is** polymerized on the **fiber surface.**

Extension Abstract
EXAMPLE - 40g of chitosan **(having** weight **average** molecular weight **of 130000 and degree of deacetylation of** 85-88%) and 120g of methacrylic acid were dissolved in water. 3g of potassium persulfate dissolved in 100g of ion exchange water and 1.0% of cyclohexane solution were added to the chitosan **aqueous solution and** reacted for 5 hours at 70(deg)C. 1 kg of isopropanol was then added to the solution, stirred, subjected to solid liquid separation and dried to obtain microparticle. 2.5 g of the obtained microparticle was dissolved in 500 ml of water. The solution containing microparticle was coated **on a** cotton fiber **and dried to obtain deodorizing** fiber. **The** fiber **obtained was found to excel in deodorization effect.**

Class Codes
International Classification (Main): D06M-015/03
(Additional/Secondary): B01D-053/04, B01J-020/26, C08B-037/08, D06M-015/263

13/34/9 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009797853
WPI ACC NO: 2000-086961/200007
Polymer emulsion, useful for hair cosmetics and deodorant fibers **(claimed) as well as skin cosmetics, pharmaceuticals, aromatizing agents** etc
Patent Assignee: KAO CORP (KAOS)
Inventor: AKAOGI A; HASEBE Y; KUWABARA K; KUWAHARA K; TACHIZAWA O; TAKAHASHI T; TATEZAWA O; TERADA E; YASUMURA T
Patent Family (10 patents, 24 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 1999062974	A1	19991209	WO 1998JP4935	A	19981030	200007 B

JP 2000053545	A	20000222	JP 1998299215	A	19981021	200020	E
EP 1002810	A1	20000524	EP 1998950475	A	19981030	200030	E
			WO 1998JP4935	A	19981030		
JP 3046584	B2	20000529	JP 1998299215	A	19981021	200030	E
CN 1273589	A	20001115	CN 1998809875	A	19981030	200115	E
TW 418235	A	20010111	TW 1998118566	A	19981107	200132	E
US 6252003	B1	20010626	WO 1998JP4935	A	19981030	200138	E
			US 2000463415	A	20000203		
KR 2001022594	A	20010326	KR 2000701186	A	20000203	200161	E
US 20010053803	A1	20011220	WO 1998JP4935	A	19981030	200206	E
			US 2000463415	A	20000203		
			US 2001756196	A	20010109		
US 6359032	B1	20020319	WO 1998JP4935	A	19981030	200224	E
			US 2000463415	A	20000203		
			US 2001756169	A	20010109		

Priority Applications (no., kind, date): JP 1998155852 A 19980604

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1999062974	A1	JA	43	0	
National Designated States,Original: CN ID KR US					
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
JP 2000053545	A	JA	8		
EP 1002810	A1	EN			PCT Application WO 1998JP4935 Based on OPI patent WO 1999062974
Regional Designated States,Original: DE FR GB					
JP 3046584	B2	JA	7		Previously issued patent JP 2000053545
TW 418235	A	ZH			
US 6252003	B1	EN			PCT Application WO 1998JP4935 Based on OPI patent WO 1999062974
US 20010053803	A1	EN			Division of application WO 1998JP4935 Division of application US 2000463415 Division of patent US 6252003
US 6359032	B1	EN			Division of application WO 1998JP4935 Division of application US 2000463415 Division of patent US 6252003

Alerting Abstract WO A1

NOVELTY - A polymer emulsion contains polymer particles having average particle diameter of ^> 30 mum and each comprising a core and a shell,

wherein the shell is constituted of chitosan **(a) and a polymer (b) of** either an organic acid with reactive vinyl group or its salt, and the core is made from a polymer (c) of a hydrophobic monomer.

DESCRIPTION - DETAILED DESCRIPTION - A polymer emulsion contains polymer particles having average particle diameter of ^> 30 mum and each comprising a core and a shell, wherein the shell is constituted of chitosan **(a)** and a polymer (b) of either an organic acid with reactive vinyl group or its salt; and the core is made from a polymer (c) of a hydrophobic monomer.

INDEPENDENT CLAIMS are also included for:

1. a similar polymer emulsion in which the core is made from a mixture of polymer (c) and a non-polymeric hydrophobic material (d);

2. a process **for producing the polymer emulsion by emulsification** and dispersion of chitosan **(a), optionally a non-polymeric** hydrophobic material (d) as well, an organic acid with reactive vinyl group or its salt (e), hydrophobic monomer (f) and oil-soluble polymerization initiator (g) in water to polymerize monomer droplets with average particle diameter of ^> 10 mum to form polymer particles with core-shell structure;

3. a similar process **in which hydrophobic monomer (f)-compatible** polymer particles (i) with average particle diameter ^> 10 mum are swollen with added (f) and optionally (d) as well before adding an aqueous solution containing (a) and (e) to provide swollen polymer particles for polymerization in the presence of (g) and optionally a water-soluble initiator (h) to give a core-shell polymer emulsion;

4. colorant particles formed from a hydrophilic polymer shell component and hydrophobic polymer core component together with pigment (k);

5. a method for making colorant particles by polymerizing the hydrophobic monomer (f), hydrophilic monomer (j) and pigment (k) in the presence of an oil-soluble initiator (g) to form core then with a water-soluble initiator (h) to produce shell;

6. a process **for producing a deodorant** fiber **by contacting** particles composed of an amino group-containing polymer (S) and a polymer of an organic acid with reactive vinyl group or its salt (b) with the fiber, **or by contacting the polymer emulsion or an** organic dispersion containing the polymer particles with the fiber **so that particulate deodorant with components (S) and (b)** is adhered to the fiber **surface; and**

7. another process **for making the deodorant** fiber **in which** component (S) and an organic acid with reactive vinyl group or its salt (e) are mixed then (e) is polymerized on the fiber **surface to**

form a film of components (S) and (b)-containing deodorant on the fiber **surface.**

USE - Such emulsion can be used in hair cosmetics and deodorantfibers **(claimed) as well as skin cosmetics, pharmaceuticals,** aromatizing agents, cement additives, coating **materials,** bacteriocides/bacteriostatics, and agrochemicals.

ADVANTAGE - The emulsion is easy to disperse and handle, and has wide application.

Technology Focus

POLYMERS - Preferred Process: **After polymerization of the monomer** droplets to form the core, a water-soluble polymerization initiator (h) is added to polymerize monomer droplets to produce the shell.

Preferred Colorant Particles: The shell is particularly made from chitosan **(a) and polymer (b). Such particles have average particle** diameter of ^> 30 mum.

Preferred Hair Cosmetics: The material contains the colorant particles and water.

Preferred Deodorant Fiber: **The deodorant that contains components** (S) and (b) is applied onto the fiber **surface. The deodorant can be a** composite of (S) and (b), with (S) being chitosan **and (b) being** poly(meth)acrylic acid and/or their salts.

Extension Abstract

EXAMPLE - A mixture of chitosan **(with deacetylation degree of** 85-88%, weight-**average** molecularweight **of 130,000; 2.5 g)** and methacrylic acid (1 g) in water (45 g) was prepared by stirring at 60 (deg)C. Then stearyl methacrylate (50 g), lauroyl peroxide (0.5 g), water (500 g), **Emulgen 420 ** (RTM; 5 g) and the above mixture (50 g) were emulsified to a particle diameter of 1.12 mum for polymerization at 75 (deg)C for 2 hours. Subsequently, ammonium persulfate (0.1 g) in water (10 g) was added for further polymerization for 2 hours to give a polymer emulsion (particle diameter of polymer = 1.218 mum; water dispersibility and stability = good). A hair rinse was obtained with the polymer emulsion by the conventional method for studies. Results were satisfactory.

Class Codes

International Classification (Main): A61K-007/13, C08F-251/00, C08F-004/00, C08K-005/00, C08L-023/00, C09C-003/10

(Additional/Secondary): A61K-007/08, C08F-285/00, C08F-291/00, C08L-005/00, C08L-051/00, C09B-067/08, D06M-015/03

US Classification, Issued: 523201000, 525242000, 523201000

13/34/10 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0009686104
WPI ACC NO: 1999-114794/
New filter applied with chitosan **or modified** chitosan **- for** eliminating white blood cell
Patent Assignee: KOREA ADV INST SCI & TECHNOLOGY (KOAD); KOREA RES INST CHEM TECHNOLOGY (KORE-N)
Inventor: CHUNG B; CHUNG B O; JO S; JUNG B; KIM J; KIM J J; KIN Z; SHU S; SUH S; SUH S B; TEI H
Patent Family (8 patents, 3 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 10338639	A	19981222	JP 1998146037	A	19980527	199910	B
JP 2854857	B2	19990210	JP 1998146037	A	19980527	199911	E
KR 1999000270	A	19990115	KR 199723052	A	19970604	200010	E
KR 1999000271	A	19990115	KR 199723053	A	19970604	200010	E
US 6182834	B1	20010206	US 199840389	A	19980318	200109	E
KR 229579	B1	19991115	KR 199723053	A	19970604	200111	E
US 6193896	B1	20010227	US 199840389	A	19980318	200114	E
			US 2000507082	A	20000218		
US 6497927	B1	20021224	US 199840389	A	19980318	200303	E
			US 2000709530	A	20001113		

Priority Applications (no., kind, date): KR 199723053 A 19970604; KR 199723052 A 19970604

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 10338639	A	JA	7	0	
JP 2854857	B2	JA	7		Previously issued patent JP 10338639
KR 1999000270	A	KO		0	
KR 1999000271	A	KO		0	
US 6193896	B1	EN			Division of application US 199840389
US 6497927	B1	EN			Division of application US 199840389
					Division of patent US 6182834

Alerting Abstract JP A
A new filter for elimination of white blood cells (WBC) comprises chitosan **or modified** chitosan **applied on nonwoven cloth.**
ADVANTAGE - The filter eliminates WBC efficiently and recovers platelets and red blood cells in high rates due to a secondary filtration by electrostatic force of attraction between cationic residues and WBCs.

Documentation Abstract

A new filter for elimination of white blood cells (WBC) comprises chitosan **or modified** chitosan **applied on nonwoven cloth.**

Also claimed is the preparation of the filter for elimination of WBC by applying chitosan **solution or modified** chitosan **solution on** nonwoven cloth.

ADVANTAGE - The filter eliminates WBC efficiently and recovers platelets and red blood cells in high rates due to a secondary filtration by electrostatic force of attraction between cationic residues and WBCs.

PREFERRED COMPONENTS - The modified chitosan **is a graft copolymer** of chitosan **and macromolecules of blood affinity such as** polydimethylaminoethylmethacrylate, polymethylmethacrylate, polyacrylic acid and sodium polyvinylsulphonate. The nonwoven cloth is synthetic or natural fibre **whose distance between** fibres **is < 3 mum.**

PREFERRED CONDITION - **Deacetylation degree of** chitosan **ranges** from 85-95 %. Average molecularwt. **of** chitosan **ranges** from 200000-700000. The nonwoven cloth is dipped in (modified) chitosan **solution of 0.1-5.0 % concentration in organic or inorganic** acid for 30 minutes to 120 minutes. While dipping, ultrasonic wave treatment **is carried out in the solution for < 2 hours. UV (< 10** mJ/cm2) is irradiated to the filter consisting of nonwoven cloth applied with modified chitosan.

EXAMPLE - Chitosan **(average** molecularwt. **500000,** deacetylation degree: 92 %) obtained from shrimp was dissolved in 1 % acetic acid to give 1 % chitosan **solution. Then polyester nonwoven** cloth (neighbouring fibre **distance is 3 mum, diameter of** fibre **is 1.8 mum and bulk density is 0.156 g/cm3) was dipped in the above** chitosan **solution for 60 minutes, dried at 40 (deg)C for 50 minutes** and further dried at 20-25 (deg)C for 24 hours in a vacuum drying machine. 2 Units of blood (600 ml) were filtered through the above filter at a speed at 13-15 minutes/unit to find that WBC elimination rate was 99 % and the recovery rates of platelet and red blood cell were 95 % respectively. (LME)

Class Codes
International Classification (Main): A61K-035/14, B01D-037/00, B01D-039/00, B01D-071/08, B60B-001/20
(Additional/Secondary): B01D-039/02, B01D-039/14, B01D-039/16
US Classification, Issued: 210506000, 210488000, 210489000, 210490000, 210503000, 210504000, 210505000, 210507000, 424443000, 428221000, 428365000, 428375000, 210767000, 210504000, 210506000, 210507000, 210490000, 436177000, 427601000, 210490000, 210504000, 210506000, 210507000, 427244000, 427512000, 427513000, 427600000

13/34/11 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009195492
WPI ACC NO: 1999-119885/199910
Applying free radical-polymerisable macromers and non-toxic initiator to biological substrates and exposing to activating agent - useful for encapsulating, sealing, plugging or supporting mammalian cells, cell aggregates or cell tissue
Patent Assignee: UNIV TEXAS SYSTEM (TEXA)
Inventor: DESAI N P; HILL J L; HOSSAINY S F A; HUBBELL J A; PATHAK C P; SAWHNEY A S
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5858746	A	19990112	US 1992870540	A	19920420	199910 B
			US 1992958870	A	19921007	
			US 199324657	A	19930301	
			US 1995377911	A	19950125	

Priority Applications (no., kind, date): US 199324657 A 19930301; US 1992958870 A 19921007; US 1992870540 A 19920420; US 1995377911 A 19950125
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5858746	A	EN	30	11	C-I-P of application US 1992870540
					C-I-P of application US 1992958870
					Continuation of application US 199324657
					C-I-P of patent US 5529914
					Continuation of patent US 5573934

Alerting Abstract US A

Methods for encapsulating, sealing, plugging or supporting mammalian cells, cell aggregates or cell tissues comprise: (a) applying a water-soluble, macromer with a molecular weight **>= 400 and** comprising >= 2 free radical-polymerisable substituents (I); (b) applying a free-radical polymerisation initiator chosen from visible light, long-wavelength ultraviolet light (>= 320 nm) or thermal activatable initiators, benzoyl peroxide, potassium persulphate or ammonium persulphate (II); and (c) exposing the mixture to an activating agent causing polymerisation of the macromers.

USE - The new materials produced are useful as tissue adhesives, coatings **for tissue lumens including blood vessels (for structural** support or to prevent thrombosis or inflammatory reactions), protective coatings **for cells such as the islets of Langerhans (for the** treatment **of metabolic** processing **diseases such as diabetes),** coatings, **plugs, supports or substrates for contact with biological** materials and as drug-delivery devices for biologically active molecules.

ADVANTAGE - The polymeric materials can be polymerised in contact with

living cells with little or no damage. Polymerisation takes place in a very short time period (from milliseconds to a few seconds) with low levels of radiation (5-500 mW) and the materials are biocompatible and resistant to degradation (for specific time periods). The polymeric material is permeable to nutrients and gases but can protect cells and tissue from in vivo attack by other cells.

Documentation Abstract

Methods for encapsulating, sealing, plugging or supporting mammalian cells, cell aggregates or cell tissues comprise:

(a) applying a water-soluble, macromer with a molecular weight **>= 400 and comprising >= 2 free radical-polymerisable** substituents (I);

(b) applying a free-radical polymerisation initiator chosen from visible light, long-wavelength ultraviolet light (>= 320 nm) or thermal activatable initiators, benzoyl peroxide, potassium persulphate or ammonium persulphate (II); and

(c) exposing the mixture to an activating agent causing polymerisation of the macromers.

USE - The new materials produced are useful as tissue adhesives, coatings **for tissue lumens including blood vessels (for structural** support or to prevent thrombosis or inflammatory reactions), protective coatings **for cells such as the islets of Langerhans (for the** treatment **of metabolic** processing **diseases such as diabetes),** coatings, **plugs, supports or substrates for contact with biological** materials and as drug-delivery devices for biologically active molecules.

ADVANTAGE - The polymeric materials can be polymerised in contact with living cells with little or no damage. Polymerisation takes place in a very short time period (from milliseconds to a few seconds) with low levels of radiation (5-500 mW) and the materials are biocompatible and resistant to degradation (for specific time periods).

The polymeric material is permeable to nutrients and gases but can protect cells and tissue from in vivo attack by other cells.

WIDER DISCLOSURE - Also disclosed are:

(1) the use, as biological materials, of sugars, mammalian dermal, neural, blood, organ, muscle, glandular, reproductive and immune system cells, haemoglobin, enzymes and enzyme systems, blood clotting/clot inhibiting factors, antigens, hormones, oligonucleotides, microbial organisms (such as bacteria and viruses), vitamins and cofactors;

(2) the use of light of 320-900 nm to initiate polymerisation; and

(3) the use of a mercury lamp, UV lamp, He-Ne laser, argon ion laser or fiber **optics to supply the polymerisation initiating light burst.**

PREFERRED BIOLOGICAL MATERIAL - The biological material is preferably an optionally mammalian cell tissue and the biologically active molecules are preferably peptides of < 100 amino acids, proteins of >= 100 amino acids, polysaccharides, nucleic acids, organic drugs or inorganic drugs.

PREFERRED CONDITIONS - **Free-radical polymerisable substituents**

preferably contain C=C or C(equivalent)C bonds and two or more acrylate groups and a non-toxic catalyst or accelerator, preferably an amine, such as triethanolamine, triethylamine, ethanolamine, n-methyldiethanolamine, N,N-dimethyl benzylamine, dibenzylamine, N-benzyl ethanolamine, N-isopropyl benzylamine, tetramethyl ethylene-diamine, lysine, ornithine, histidine or arginine, is added to the mixing step.

The water-soluble macromer is preferably polyethylene glycol (PEG), poly(ethylene oxide), poly(vinyl alcohol), poly(vinylpyrrolidone), poly(ethyloxazoline), a poly(amino acid), a polysaccharide (such as alginate, hyaluronic acid, chondroitin sulphate, dextran, dextran sulphate, heparin, heparin sulphate, heparan sulphate, chitosan, **gellan gum,** xanthan gum, guar gum or K-carrageenan), a protein (such as gelatine, collagen or albumin) optionally as a random copolymer or a block.

The polymerisation initiator is preferably an optionally substituted eosin dye, riboflavin, optionally substituted acetophenone, optionally substituted fluoroscein dye, camphorquinone, rose bengal, methylene green, methylene blue, eosin Y, ethyl eosin, acridine orange, xanthine dye, thioxanthine dye, or a thermal initiator and the polymerisation initiator is erythrosin, phloxime or thionine, a change in temperature or light of the wavelength 320-800 nm, especially 514 or 365 nm.

PREFERRED METHOD - The mammalian cells are contacted with a solution of light-sensitive photoinitiator and allowed to bind together. Unbound initiator is then removed from the sample, by dilution with the macromer solution, prior to contacting it with the polymer or oligomer.

The cells are enclosed in a polysaccharide gel to increase structural protection of the material and provide a secondary level of perm-selectivity. To increase gel attachment a photopolymerisable polycation is optionally pre-adsorbed to the molecule or material being encapsulated.

EXAMPLE - Five-hundred Islets of Langerhans were suspended in RPMI 1640 medium containing 10% foetal bovine serum and pelleted by centrifuging at 100 g for 3 minutes. The pellet was re-suspended in 23% solution (1 ml) of PEG 18.5K tetra-acrylate macromer in HEPES buffered saline and ethyl eosin solution (5 mul) in vinyl pyrrolidone (0.5%) was added along with a 5M solution (100 mul) of triethanolamine in saline.

Mineral oil (20 ml) was added and the mixture vigorously agitated to form a dispersion of droplets 200-500 mum in size. The dispersion was then exposed to an argon ion laser (250 mW) emitting at 514 nm for 30 seconds. The mineral oil was separated by allowing the microspheres to settle and the resulting microspheres were washed twice with phosphate-buffered saline, once with hexane and three times with media.

The viability of encapsulated islets was verified by acridine orange, propidium iodide staining and by dithizone staining and functional normality was tested by a SGS test. The response of the encapsulated islets was compared with that of free islets maintained in culture for the same time periods (all islets were maintained in culture for a week before SGS tests were performed).

Encapsulated islets were found to secrete significantly ($p < 0.05$) higher amounts of insulin than the free islets. The PEG-tetra-acrylate gel encapsulation process **did not impair function of the islets and, in** fact helped them maintain their function in culture. (MCB)

Class Codes
International Classification (Main): C12N-011/02
(Additional/Secondary): C08J-007/16, C12N-011/04, C12N-005/06
US Classification, Issued: 435177000, 424450000, 424487000, 424497000, 424499000, 514002000, 514772100, 514773000, 514777000, 524056000, 524702000, 524704000, 524733000, 524734000, 524849000, 524850000, 524852000, 524856000, 525054100, 525054200, 525408000, 525413000, 528361000, 477002140, 477002210, 477513300, 477213320, 477213340, 477213360

13/34/12 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008968797
WPI ACC NO: 1998-522089/
Dried hydrocolloid or hydrogel based on polysaccharide(s) - useful in cosmetics, topical pharmaceuticals, for implants or cell culture and as coatings **for e.g. catheters or endoscopes**
Patent Assignee: GWE GES WISSENSCHAFT & ENTWICKLUNG MBH (GWEW-N); KNOELL-INST NATURSTOFF-FORSCH EV HANS (KNOE-N); THUERINGISCHES INST TEXTIL & KUNST (THUE-N)
Inventor: BUEHLER K; HUECKEL M; MEISTER F; MUELLER P; TAPLICK T
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
DE 19712708	A1	19981001	DE 19712708	A	19970326	199845 B

Priority Applications (no., kind, date): DE 19712708 A 19970326

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
DE 19712708	A1	DE	4	0	

Alerting Abstract DE A1
Dried hydrocolloid and/or hydrogel with few contaminants is claimed, which has a density of 0.05 - 1.50 g/cm3 and a residual water content of 1 - 80 wt.%, and is optionally in a structured surface form. The hydrocolloid/hydrogel is based on non-modified and/or modified natural, biotechnologically manufactured and/or semi-synthetic polysaccharides and optionally contains 0.01 - 60 wt.% of additives.

The novelty is that drying of the hydrocolloid/hydrogel takes place using microwave energy and optionally the thermal energy from heated gases or infrared radiation.

Also claimed is a method for producing the dried hydrocolloid/hydrogel, in which microwave energy preferably makes up 10 - 95 % of the total energy used to dry the gel and where the frequency of the microwaves is preferably 2.4 - 2.5 GHz. The microwaves are continuous or in modulated or impulse form.

USE - The hydrocolloid or hydrogel is useful in cosmetics, topical ophthalmological, dermal or transdermal administration of pharmaceuticals, as components for implants, as components for treating **arteriosclerosis, arthritis and/or trauma, to promote angiogenesis, wound** healing and relief of inflammation, and as matrices for cell culture techniques (all claimed). It can also be used to improve the smoothness of pharmaceuticals, catheters, ultrasound measuring devices and endoscopes (all claimed).

ADVANTAGE - Prior polysaccharide hydrogels tend to have a spongy structure; when brought into contact with water, they absorb it very rapidly, leading to disintegration of their matrix structure. The hydrocolloid of the invention is homogenous, contains few contaminants and undergoes little chemical alteration during the drying process.

Documentation Abstract

Dried hydrocolloid and/or hydrogel with few contaminants is claimed, which has a density of 0.05 - 1.50 g/cm3 and a residual water content of 1 - 80 wt.%, and is optionally in a structured surface form. The hydrocolloid/hydrogel is based on non-modified and/or modified natural, biotechnologically manufactured and/or semi-synthetic polysaccharides and optionally contains 0.01 - 60 wt.% of additives.

The novelty is that drying of the hydrocolloid/hydrogel takes place using microwave energy and optionally the thermal energy from heated gases or infrared radiation.

Also claimed is a method for producing the dried hydrocolloid/hydrogel, in which microwave energy preferably makes up 10 - 95 % of the total energy used to dry the gel and where the frequency of the microwaves is preferably 2.4 - 2.5 GHz. The microwaves are continuous or in modulated or impulse form.

USE - The hydrocolloid or hydrogel is useful in cosmetics, topical ophthalmological, dermal or transdermal administration of pharmaceuticals, as components for implants, as components for treating **arteriosclerosis, arthritis and/or trauma, to promote angiogenesis, wound** healing and relief of inflammation, and as matrices for cell culture techniques (all claimed).

It can also be used to improve the smoothness of pharmaceuticals, catheters, ultrasound measuring devices and endoscopes (all claimed).

ADVANTAGE - Prior polysaccharide hydrogels tend to have a spongy structure; when brought into contact with water, they absorb it very

rapidly, leading to disintegration of their matrix structure.

The hydrocolloid of the invention is homogenous, contains few contaminants and undergoes little chemical alteration during the drying process.

PREFERRED EMBODIMENTS - The polysaccharide is selected from pectin, chitin, chitosan, **chondroitin, heparin, starches, dextran, pullulan,** xanthan, welan, rhamsan, curdlan, alginates, carrageenan, keratan, hyaluronic acids, dermatan, gellan, schizophyllan and/or polysaccharides produced from carob flour, agar, gum arabic, tragacanth, guar gum, fenugreek gum, locust bean gum and/or tara gum.

The hydrocolloid/hydrogel may also contain 0.1 - 25 wt.% film forming agents, preferably cellulose derivatives; 0.01 - 25 wt. % preservative, especially p-hydroxybenzoic acid ester and/or sorbic acid; 1 - 30 wt. % stabilising fibre-**forming carrier materials; 0.05 - 10 wt. %** minerals; 0.05 - 3 wt. % micelle-forming agents, especially nonionic emulsifiers; 1 - 25 wt. % softeners, especially glycerine; 0.05 - 30 wt. % cosmetic and/or pharmaceutical agents, especially vitamins and/or skin penetration promoters; 1 - 30 wt. % vehicles for active substances (e.g. liposomes); 0.05 - 2 wt. % antioxidants, especially ascorbic acid; 0.05 - 2 % perfumes, especially etheric oils; and/or 0.05 - 5 wt. % dyestuff.

The dried hydrocolloid/hydrogel has a number average molecular weight **of at least 75 % of that of the starting material.**

EXAMPLE - Polypropylene housings for ultrasound measuring devices with a surface area of 85 cm2 were dipped into a bath containing 22 g hyaluronic acid, 12 g carboxymethylcellulose, 4 g glycerine and 0.3 g sorbic acid in one litre of water. The housings were then passed through a 2.5 m microwave tunnel at a rate of 0.17 m/min, and were subjected to a total power of 8.5 kW, along with a stream of warm air at 40 - 45 (deg)C.

The resulting coating **was 250 mum thick, contained 12 wt.% water** and showed no discoloration as a result of the heat treatment. **(RH2)**

Class Codes
International Classification (Main): C08L-005/00
(Additional/Secondary): A61K-047/36, A61K-007/00, A61L-027/00, A61L-029/00, B29B-009/00, C08J-003/12, C08J-003/28, C08J-005/04, C12N-011/10, C12N-005/00, F26B-003/347

13/34/13 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008912590
WPI ACC NO: 1998-462913/
Producing polymerisable organic high molecular weight **compounds** - by reacting natural organic high molecular weight **compounds** containing e.g. prim. or sec. amino, with polymerisable isocyanate groups

Patent Assignee: SHOWA DENKO KK (SHOW)
Inventor: FUJITA T; OKUBO M; OONISHI M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 10195169	A	19980728	JP 19973693	A	19970113	199840 B

Priority Applications (no., kind, date): JP 19973693 A 19970113

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 10195169	A	JA	8	0	

Alerting Abstract JP A

The prodn. of polymerisability-rendered natural organic high mol. cpds. comprises reacting (a) natural organic high mol. cpds. contg. at least prim. amino or sec. amino gp. or OH and having substantially no vinyl-polymerisability with (b) polymerisable unsatd. gp.-contg. isocyanate cpds. contg. both of polymerisable C to C unsatd. gp. and isocyanate gp. in water-contg. soln. of pH 5-13.

USE - The high mol. cpds. are used for graft-polymerisation to resin, kneading into resin, unwoven cloth and paper, coating **of film, sheet,** fibre, **paper and synthetic leather, and blending with paint, surface-**treating **agent and ink.**

ADVANTAGE - They provide films and mouldings having good flexibility, heat resistance, solvent resistance and chemical resistance.

Documentation Abstract

The prodn. of polymerisability-rendered natural organic high mol. cpds. comprises reacting (a) natural organic high mol. cpds. contg. at least prim. amino or sec. amino gp. or OH and having substantially no vinyl-polymerisability with (b) polymerisable unsatd. gp.-contg. isocyanate cpds. contg. both of polymerisable C to C unsatd. gp. and isocyanate gp. in water-contg. soln. of pH 5-13.

USE - The high mol. cpds. are used for graft-polymerisation to resin, kneading into resin, unwoven cloth and paper, coating **of film, sheet,** fibre, **paper and synthetic leather, and blending with paint, surface-**treating **agent and ink.**

ADVANTAGE - They provide films and mouldings having good flexibility, heat resistance, solvent resistance and chemical resistance.

PREFERRED PROCESS - **(a) contain prim. or sec. amino gp. being** active in the presence of water. (a) are selected from collagen, gelatin, sericin, fibroin, **keratin, casein, albumin,** chitosan. **(b) are** 2-methacryloyloxyethyl isocyanate (MEI) or methacryloyl isocyanate. (b) are added to (a) in a molar ratio of terminal NCO of (b)/amino or OH of (a) of 1/100-100/100. The reaction temp. is 5-40 deg C. Polymerisability-having natural organic high mol. cpds. contg. 0.1-3.0 mmoles/g of unsatd. gp. are

produced.
EXAMPLE - 100 pts. (wt.) of 20 % aq. soln. of gelatin having an average mol. wt. **of about 20,000 were stirred at 20 deg C and at 3000** rpm. A soln. prepd. by dissolving 0.2 pt. of hydroquinonemonomethyl ether in 2 pts. of isopropyl alcohol was added the gelatin soln. The mixed soln. was adjusted to pH 7.5. 1.2 pt. of MEI was added to the gelatin aq. soln. with stirring at about 1000 rpm over 10 mins. The mixt. was stirred at high speed for 20 mins. The reaction prod. had an average mol. wt. of 20,000-22,000 and contained 0.6 mmole/g of unsatd. gp. The molar ratio of terminal isocyanate gp. of MEI/active amino gp. of gelatin was about 50/100.

Class Codes
International Classification (Main): C08G-018/64
(Additional/Secondary): C08F-290/06, C08F-299/06, C08G-018/81, C08L-075/16

13/34/14 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008309662
WPI ACC NO: 1997-420781/
Permanently form-stabilising protein fibre **goods - by** coating **with solution containing** chitosan **and cystine, then drying, giving** good hot water and steam resistance
Patent Assignee: TSUYAKKU KK (TSUY-N)
Inventor: KOIKE Y; NIWA Y
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 9188973	A	19970722	JP 19962227	A	19960110	199739	B
JP 2937842	B2	19990823	JP 19962227	A	19960110	199939	E

Priority Applications (no., kind, date): JP 19962227 A 19960110

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 9188973	A	JA	7	0	
JP 2937842	B2	JA	7		Previously issued patent JP 09188973

Alerting Abstract JP A
Permanently form-stabilising protein fibre **goods comprises: (i)** providing a solution of chitosan **having average** mol.wt. 50000-400000 and 35-65 mol.% of acetyl group content, cystine and cystine derivative; (ii) mixing at weight ratio of cystine/chitosan **of 5-40** and regulating pH value at 3.5-9.0; (iii) adhering the protein fibre

goods with the solution of 0.15-6.5 wt.% by pure component; and (iv) drying the adhered protein fibre goods.

Also claimed are: (1) a process of permanently form-stabilising protein fibre goods by providing a prepolymerised solution obtained by mixing poly-oxysilane derivative e.g. ethylene or polyethylene glycol diglycidyl ether derivative or propylene or polypropylene glycol diglycidyl ether derivative, epoxy-modified silicone and one or more high polymer resin components selected from a fluorine-containing high polymer consisting mainly of acrylic ester derivative, with the solution adhering the protein fibre goods with the solution of 0.15-7.0 wt.% by pure component, and drying the adhered protein fibre goods; (2) a process of permanently form stabilising feather fibres by providing a solution of chitosan having average mol.wt. of 50000-400000 and 35-65 mol.% of acetyl group content, cystine and cystine derivative, mixing at weight ratio of cystine/chitosan of 5-40 and regulating pH value at 3.5-9.0, adhering the feather fibre with the solution of 0.8-6.5 wt.% by pure component, and drying the adhered feather fibre; and (3) a process of permanently form stabilising feather fibre by providing a prepolymerised solution obtained by mixing poly-oxysilane derivative e.g. ethylene or polyethylene glycol diglycidyl ether derivative or propylene or polypropylene glycol diglycidyl ether derivative, epoxy-modified silicone and one or more high polymer resin compounds selected from a fluorine-containing high polymer consisting mainly of acrylic ester derivative, with the solution, adhering the feather fibre with the polymerised solution of 1.1-7.0 wt.% by pure component, and drying the adhered feather fibre.

ADVANTAGE - The protein fibre goods and feather fibre having form stability, have good hot water and steam resistance, and further bad odour, discoloration and degradation of protein can be avoided.

Documentation Abstract

Permanently form-stabilising protein fibre goods comprises:

(i) providing a solution of chitosan having average mol. wt. 50000-400000 and 35-65 mol.% of acetyl group content, cystine and cystine derivative;

(ii) mixing at weight ratio of cystine/chitosan of 5-40 and regulating pH value at 3.5-9.0;

(iii) adhering the protein fibre goods with the solution of 0.15-6.5 wt.% by pure component; and

(iv) drying the adhered protein fibre goods.

Also claimed are:

(1) a process of permanently form-stabilising protein fibre goods by providing a prepolymerised solution obtained by mixing poly-oxysilane derivative e.g. ethylene or polyethylene glycol diglycidyl ether derivative or propylene or polypropylene glycol diglycidyl ether derivative, epoxy-modified silicone and one or more high polymer resin components selected from a fluorine-containing high polymer consisting

mainly of acrylic ester derivative, with the solution adhering the protein fibre **goods with the solution of 0.15-7.0 wt.% by pure component, and** drying the adhered protein fibre **goods;**

(2) a process **of permanently form stabilising feather** fibres **by providing a solution of** chitosan **having average** mol.wt **. of 50000-400000 and 35-65 mol.% of acetyl group content, cystine and** cystine derivative, mixing at weight ratio of cystine/chitosan **of** 5-40 and regulating pH value at 3.5-9.0, adhering the feather fibre **with the solution of 0.8-6.5 wt.% by pure component, and drying the adhered** feather fibre; **and**

(3) a process **of permanently form stabilising feather** fibre **by providing a prepolymerised solution obtained by mixing poly-oxysilane** derivative e.g. ethylene or polyethylene glycol diglycidyl ether derivative or propylene or polypropylene glycol diglycidyl ether derivative, epoxy-modified silicone and one or more high polymer resin compounds selected from a fluorine-containing high polymer consisting mainly of acrylic ester derivative, with the solution, adhering the feather fibre **with the polymerised solution of 1.1-7.0 wt.% by pure** component, and drying the adhered feather fibre.

ADVANTAGE - The protein fibre **goods and feather** fibre **having** form stability, have good hot water and steam resistance, and further bad odour, discoloration and degradation of protein can be avoided. (IS)

Class Codes
International Classification (Main): D06M-015/15
(Additional/Secondary): C08B-037/08, D06M-013/11, D06M-013/248, D06M-015/643, D06M-019/00

13/34/15 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008015895
WPI ACC NO: 1997-108775/199710
Fibrous **polyolefin surface modified with ionic gps. and** coated **with polyelectrolyte of opposite charge - which is useful for filtration,** flotation and flocculation treatments **of waste water**
Patent Assignee: KIMBERLY CLARK CORP (KIMB)
Inventor: GILLBERG-LA FORCE G E; GILLBERG-LAFORCE G E; KIICK-FISCHER K L; TURKEVICH L A
Patent Family (4 patents, 67 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1997002077	A2	19970123	WO 1996US10830	A	19960626	199710	B
US 5618622	A	19970408	US 1995497676	A	19950630	199720	E
AU 199662897	A	19970205	AU 199662897	A	19960626	199721	E

WO 1997002077 A3 19970220 WO 1996US10830 A 19960626 199722 E

Priority Applications (no., kind, date): US 1995497676 A 19950630

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1997002077	A2	EN	23	0	

National Designated States,Original: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN

Regional Designated States,Original: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG

US 5618622	A	EN	7	0	
AU 199662897	A	EN			Based on OPI patent WO 1997002077
WO 1997002077	A3	EN			

Alerting Abstract WO A2

The surface-modified fibrous **material (I) comprises hydrocarbon** polymer fibres **(II) having cationic (IIA) or anionic gps. (IIB) on** their surfaces and coated **with a polyelectrolyte (III) having a net** charge opposite to that of (IIA) and (IIB) on the surfaces of (II).

Also claimed is a filtration medium comprising (I) and a method of preparing (I) by providing a fibrous **material (IV) comprising (II);** treating **(IV) to provide (IIA) and (IIB) on their surfaces; and then** treating **with an aq. soln. of (III).**

USE - (I) is useful in the prodn. of filters for liqs., dyes and other organic molecules, toxic chemicals, ions and metals having high complexing constants with polyelectrolytes, and is useful in waste water treatment, **flotation and flocculation.**

ADVANTAGE - (I) has the ability to capture oppositely charged particles and/or ions. Treatment **of (I) with (III) inhibits diffusive** reorientation and loss of the surface gps. resulting in a more durable functionalisation.

Documentation Abstract

The surface-modified fibrous **material (I) comprises hydrocarbon** polymer fibres **(II) having cationic (IIA) or anionic gps. (IIB) on** their surfaces and coated **with a polyelectrolyte (III) having a net** charge opposite to that of (IIA) and (IIB) on the surfaces of (II).

Also claimed is a filtration medium comprising (I) and a method of preparing (I) by providing a fibrous **material (IV) comprising (II);** treating **(IV) to provide (IIA) and (IIB) on their surfaces; and then** treating **with an aq. soln. of (III).**

USE - (I) is useful in the prodn. of filters for liqs., dyes and other organic molecules, toxic chemicals, ions and metals having high complexing constants with polyelectrolytes, and is useful in waste water treatment, **flotation and flocculation.**

ADVANTAGE - (I) has the ability to capture oppositely charged particles and/or ions. Treatment **of (I) with (III) inhibits diffusive** reorientation and loss of the surface gps. resulting in a more durable functionalisation.

PREFERRED COMPOSITION - (II) are polyolefin fibres, **pref.** polyethylene or polypropylene with surface anionic gps., pref. carboxylic acid or sulphonic acid gps. and (III) is chitosan **or** poly(methacryloxy-ethyl-trimethyl-ammonium bromide). The gps. on the surfaces of the fibres **are cationic gps., pref. quaternary ammonium** gps. and (III) is poly(acrylic acid) or poly(styrene sulphonate).

EXAMPLE - A melt-blown polypropylene non-woven web (0.5 osy, 17 gsm) was soaked for 1 minute in 50 ml of a 0.5 wt.% aq. soln. of octyl-cresoxy-ethoxyethyl-dimethylbenzyl ammonium chloride and then passed through a wringer to remove excess soln.. The web was immersed in 200 ml of a 0.25 wt.% soln. of poly(acrylic acid) (wt. **average** mol. wt. **of 750,000 Daltons) followed by wringing and air drying. 25% of** amine-modified mono-disperse 378 nm polystyrene particles were removed after passage through a 25 mm diameter dish of the treated **web. In** comparison, 2% of the polystyrene particles were removed after passage through two layers of untreated non-woven web. (NA)

Class Codes
International Classification (Main): B01D, B01D-039/00, D02G-003/00
US Classification, Issued: 428357000, 428375000, 428221000, 210639000, 210507000, 210509000, 210679000, 210777000, 210505000, 210502100, 442164000

13/34/16 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0007852707
WPI ACC NO: 1996-482770/
Deodorised fibre **for cigarette aldehyde adsorption for high** durability - comprises coating **of** chitosan **and urethane! resin** on fibre, **for avoiding decrease in aldehyde adsorption after repeated** washing
Patent Assignee: MITSUBISHI RAYON CO LTD (MITR)
Inventor: OGASAWARA M; SAKURAI E; SHIOTSUKI M; TAKEUCHI S
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 8246349	A	19960924	JP 199577070	A	19950309	199648 B

Priority Applications (no., kind, date): JP 199577070 A 19950309

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 8246349	A	JA	4	0	

Alerting Abstract JP A

A deodorised fibre **has a** coating **comprising** chitosan **and an urethane resin on a** fibre. **The** chitosan **1-10 wt.% is** stuck to the fibre. **Also claimed is the prodn. of the deodorised** fibre **comprising: (a) dipping the** fibre **in a mixed soln.** comprising an aq. soln. of acid comprising chitosan **and a heat** reaction water-soluble urethane resin; (b) squeezing the mixed soln.; (c) sticking the chitosan, **1-10 wt.% to the** fibre; **and (d) applying** heat treatment **to the** fibre.

Chitosan **has an average** mol.wt. **of 2000-500000, and a** deg. of deacetylation of at least 60% (at least 80%). A natural- or (semi)synthetic-fibre **is used.**

USE - The method produces the deodorised fibre **having aldehyde** adsorption.

ADVANTAGE - The method easily produces the deodorised fibre **having** no decrease in aldehyde adsorption after repeated washing. The deodorised fibre **has superior durability and aldehyde adsorption, partic.** aldehyde in a cigarette. The method easily produces deodorised fibre **regardless of type or shape.**

Documentation Abstract

A deodorised fibre **has a** coating **comprising** chitosan **and an urethane resin on a** fibre. **The** chitosan **1-10 wt.% is** stuck to the fibre.

Also claimed is the prodn. of the deodorised fibre **comprising:**

(a) dipping the fibre **in a mixed soln. comprising an aq. soln. of** acid comprising chitosan **and a heat reaction water-soluble urethane** resin;

(b) squeezing the mixed soln.;

(c) sticking the chitosan, **1-10 wt.% to the** fibre; **and**

(d) applying heat treatment **to the** fibre.

USE - The method produces the deodorised fibre **having aldehyde** adsorption.

ADVANTAGE - The method easily produces the deodorised fibre **having** no decrease in aldehyde adsorption after repeated washing. The deodorised fibre **has superior durability and aldehyde adsorption, partic.** aldehyde in a cigarette. The method easily produces deodorised fibre **regardless of type or shape.**

PREFERRED CHITOSAN - Chitosan **has an average** mol. wt. **of 2000-500000, and a deg. of deacetylation of at least 60% (at** least 80%).

PREFERRED FIBRE - **A natural- or (semi)synthetic-fibre is** used. (SV)

Class Codes
International Classification (Main): D06M-015/03
(Additional/Secondary): D06M-015/564

13/34/17 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0007179496
WPI ACC NO: 1995-221021/
Antifungal fibre **which retains effect after washing - is surface** coated **with complex cpd. obtd. by physical compounding of** chitosan **cpd. and high** molecular wt. **cpd.**
Patent Assignee: DAINIPPON INK & CHEM INC (DNIN); TOCHIGI KEN (TOCH-N)
Inventor: KUWAMURA S; ONOZAKI T; TSURUYA K; UMEYAMA K; YOSHIKAWA T; YOSHINO F
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
JP 7133589	A	19950523	JP 19925190	A	19920114	199529 B

Priority Applications (no., kind, date): JP 19925190 A 19920114

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 7133589	A	JA	9	2	

Alerting Abstract JP A

The antifungal fibre **is surface** coated **with a complex cpd.** obtd by physical compounding a chitosan **cpd. and a high** mol. wt. **cpd. without causing chemical bonding.**

The high mol. wt. **cpd. includes acrylic, polyester, urethane** and amino resins. The antifungal fibre **is prepd by attaching a** compsn. which contains the above complex cpd. and an organic binder, to the surface of a base fibre. **The compsn. is powdered and attached to the** base fibre **by fusion bonding, or the compsn. is made into an emulsion** and is applied by coating, **followed by curing** treatment, **or the** base fibre **is impregnated with the emulsion and is subjected to** curing treatment, **or the compsn. is formed into a film and the film** is laminated on the base fibre. **The** fibre **includes yarn, woven** and nonwoven fabrics, cotton and composite material with high polymeric substance such as resin and cellulose.

ADVANTAGE - The antifungal fibre **does not cause loss of its effect** by washing, etc. It maintains antifungal properties in manufacturing process **and is prepared easily.**

Extention Abstract Image

http://imagesrv.dialog.com/imanager/getimage?ref=I31b8282063d411dabf4300008361346f&f=351&type=PNG

Documentation Abstract

The antifungal fibre **is surface** coated **with a complex cpd.** obtd by physical compounding a chitosan **cpd. and a high** mol. wt. **cpd. without causing chemical bonding.**

ADVANTAGE - The antifungal fibre **does not cause loss of its effect** by washing, etc. It maintains antifungal properties in manufacturing process **and is prepared easily.**

PREFERRED PROCESS - **The high** mol.wt. **cpd. includes** acrylic, polyester, urethane and amino resins.

The antifungal fibre **is prepd by attaching a compsn. which contains** the above complex cpd. and an organic binder, to the surface of a base fibre. **The compsn. is powdered and attached to the base** fibre **by fusion bonding, or the compsn. is made into an emulsion and is applied** by coating, **followed by curing** treatment, **or the base** fibre **is impregnated with the emulsion and is subjected to curing** treatment, **or the compsn. is formed into a film and the film is** laminated on the base fibre.

The fibre **includes yarn, woven and nonwoven fabrics, cotton and** composite material with high polymeric substance such as resin and cellulose. (SB)

Class Codes

International Classification (Main): D06M-015/03

(Additional/Secondary): C08B-037/08, D06M-015/21

13/34/18 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0007168347

WPI ACC NO: 1995-208226/199528

New glycosaminoglycan-synthetic polymer conjugates - useful, e.g., in soft and hard tissue augmentation procedures

Patent Assignee: BERG R A (BERG-I); COLLAGEN CORP (CLGE); RHEE W M (RHEE-I)

Inventor: BERG R A; RHEE W M

Patent Family (7 patents, 15 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 656215	A1	19950607	EP 1994117227	A	19941101	199528	B

CA 2134745	A	19950504	CA 2134745	A	19941031	199531	E
JP 7278203	A	19951024	JP 1994271556	A	19941104	199551	E
US 5470911	A	19951128	US 1988274071	A	19881121	199602	E
			US 1989433441	A	19891114		
			US 1992907518	A	19920702		
			US 1993146843	A	19931103		
			US 1995433656	A	19950504		
US 5476666	A	19951219	US 1988274071	A	19881121	199605	E
			US 1989433441	A	19891114		
			US 1992907518	A	19920702		
			US 1993146843	A	19931103		
			US 1995434725	A	19950504		
US 5510121	A	19960423	US 1988274071	A	19881121	199622	E
			US 1989433441	A	19891114		
			US 1992907518	A	19920702		
			US 1993146843	A	19931103		
			US 1995434958	A	19950504		
US 5510418	A	19960423	US 1988274071	A	19881121	199622	E
			US 1989433441	A	19891114		
			US 1992907518	A	19920702		
			US 1993146843	A	19931103		

Priority Applications (no., kind, date): US 1995434958 A 19950504; US 1995434725 A 19950504; US 1995433656 A 19950504; US 1992907518 A 19920702; US 1989433441 A 19891114; US 1988274071 A 19881121; US 1993146843 A 19931103

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 656215	A1	EN	38	0	
Regional Designated States,Original: AT BE CH DE DK ES FR GB IT LI NL SE					
CA 2134745	A	EN			
JP 7278203	A	JA	30		
US 5470911	A	EN	17	0	C-I-P of application US 1988274071 C-I-P of application US 1989433441 C-I-P of application US 1992907518 Division of application US 1993146843 C-I-P of patent US 5162430 C-I-P of patent US 5324775
US 5476666	A	EN	18	0	C-I-P of application US 1988274071 C-I-P of application US 1989433441 C-I-P of application US 1992907518 Division of application US 1993146843 C-I-P of patent US 5162430 C-I-P of patent US 5324775

US 5510121	A	EN	16	0	C-I-P of application US 1988274071 C-I-P of application US 1989433441 C-I-P of application US 1992907518 Division of application US 1993146843 C-I-P of patent US 5162430 C-I-P of patent US 5324775
US 5510418	A	EN	18	0	C-I-P of application US 1988274071 C-I-P of application US 1989433441 C-I-P of application US 1992907518 C-I-P of patent US 5162430 C-I-P of patent US 5324775

Alerting Abstract EP A1

The following are claimed: (A) a biocompatible, biologically inert conjugate comprising a glycosaminoglycan (GAG), or deriv. of this, chemically conjugated to a hydrophilic synthetic polymer (HSP); (B) a biocompatible, biologically inert conjugate comprising a difunctionally activated HSP chemically conjugated to both (a) collagen or a deriv. of this, and (b) a GAG or a deriv. of this; (C) compsn. comprising: (a) a conjugate as described in (A); and (b) a cytokine or growth factor; (D) an injectable compsn. comprising: (a) a conjugate as described in (A); and (b) a fluid carrier in amts. sufficient amts. to render the compsn. injectable; (E) a compsn. suitable for augmentation of hard tissue in mammals, comprising a conjugate as described in (A), in which the HSP is difunctionally activated, the conjugate having been dehydrated to remove all unbound water; and (F) a compsn. suitable for coating **an implant,** comprising a conjugate as described in (A) in which the HSP is difunctionally activated.

USE - The conjugates are useful in soft tissue augmentation, e.g., in facial areas and they may also be moulded into a desired shape to form a solid implant for hard tissue augmentation (claimed) such as for repair or replacement of bone or cartilage. The conjugates may be used in dermal wound healing, cardiovascular applications, in ophthalmic applications such as vitreous fluid replacement or a corneal shields for delivery of drugs to the eye, as joint lubricants for treatment **of arthritis, as** injectable drug or cell delivery systems, as dermal wound dressings, or as coatings **for solid implants intended for long term use in the body.** They may be in the form of membranes, beads, sponges, tubes, sheets or formed implants (claimed). Formed implants may be used as prosthetic devices for replacement or augmentation of various organs or body parts such as ears, heart valves, patellas, noses and cheekbones (claimed).

ADVANTAGE - The conjugates have a greater degree of in vivo stability than conventionally GAG compsns. They also have superior handling characteristics, and improved mouldability, malleability and elasticity, and generate decreased immune reactions.

Documentation Abstract
The following are claimed:
(A) a biocompatible, biologically inert conjugate comprising a glycosaminoglycan (GAG), or deriv. of this, chemically conjugated to a hydrophilic synthetic polymer (HSP);
(B) a biocompatible, biologically inert conjugate comprising a difunctionally activated HSP chemically conjugated to both (a) collagen or a deriv. of this, and (b) a GAG or a deriv. of this;
(C) compsn. comprising:
(a) a conjugate as described in (A); and
(b) a cytokine or growth factor;
(D) an injectable compsn. comprising:
(a) a conjugate as described in (A); and
(b) a fluid carrier in amts. sufficient amts. to render the compsn. injectable;
(E) a compsn. suitable for augmentation of hard tissue in mammals, comprising a conjugate as described in (A), in which the HSP is difunctionally activated, the conjugate having been dehydrated to remove all unbound water; and
(F) a compsn. suitable for coating **an implant, comprising a** conjugate as described in (A) in which the HSP is difunctionally activated.
USE - The conjugates are useful in soft tissue augmentation, e.g., in facial areas and they may also be moulded into a desired shape to form a solid implant for hard tissue augmentation (claimed) such as for repair or replacement of bone or cartilage.
The conjugates may be used in dermal wound healing, cardiovascular applications, in ophthalmic applications such as vitreous fluid replacement or a corneal shields for delivery of drugs to the eye, as joint lubricants for treatment **of arthritis, as injectable drug or cell delivery** systems, as dermal wound dressings, or as coatings **for solid implants** intended for long term use in the body. They may be in the form of membranes, beads, sponges, tubes, sheets or formed implants (claimed).
Formed implants may be used as prosthetic devices for replacement or augmentation of various organs or body parts such as ears, heart valves, patellas, noses and cheekbones (claimed).
ADVANTAGE - The conjugates have a greater degree of in vivo stability than conventionally GAG compsns. They also have superior handling characteristics, and improved mouldability, malleability and elasticity, and generate decreased immune reactions.
PREFERRED MATERIALS - The GAG is derivatised by deacetylation or desulphation. The HSP is a multifunctionally or difunctionally activated PEG.
The conjugate is esp. of structural formula (I):
GAG-HN-OC-(CH2)n-Z-PEG-Z-(CH2)n-CO-NH-X (I)
GAG is a glycosaminoglycan or a deriv.,
n = 0-4;
Z is O or O-C=O; and

X = the same or different GAG or collagen.

The GAG is selected from hyaluronic acid, chondroitin sulphates, heparin, keratan sulphate, dermatan sulphate, keratosulphate, chitin, chitosan **1,** chitosan **2 and/or derivs. and mixts. of these. The collagen is** fibrillar **or nonfibrillar collagen.**

The conjugate may be in the form of a hydrogel compsn. with a moisture content of 5-95%.

The growth factor is selected from EGF, TGF-alpha, beta, beta1 or beta2, PDGF-AA, AB or BB, acidic fibroblast **growth factor, basic** fibroblast **growth factor, connective tissue activating peptide,** beta-thromboglobulin, insulin-like growth factors, TNF, ILs, CSFs, EPO, NGF, IFNs, bone morphogenic protein and osteogenic factors but is esp. TGF-beta, TGF-beta1, TGF-beta2 and EPO.

The HSP and GAG are linked via an ester, ether, urethane or (CH2)n-NH linkage.

PREPARATION - The prepn. of GAG-polymer conjugates suitable for admin. to mammals, comprises:

(a) providing an aq. soln. of >= 1 species of GAG or a deriv.;

(b) adding a soln. of an activated HSP which has a reactive gp. capable of forming a covalent bond with an available amine gp. on the chemically derivatised GAG; and

(c) causing the polymer to form covalent bonds with the GAG.

EXAMPLE - Sodium hyaluronate (1.0 g) was added to 0.2M NaOH (15 ml), and allowed to dissolve overnight to form a homogeneous soln. 5 ml of the hyaluronic acid that was neutralised with 1M HCl soln. was mixed with 50 mg of difunctionally activated S-PEG in 0.5 ml of PBS.

The resulting material was extruded from a syringe into a petri dish, and incubated at 37(deg)C. After 16 hrs. the material had formed a crosslinked gel. (MG)

Class Codes
International Classification (Main): A61F-002/00, A61K-035/12, A61K-047/48, C07K-015/20, C08B-037/00, C08G-063/48, C08G-063/91
(Additional/Secondary): A61K-031/715, A61K-035/14, A61K-035/24, A61K-035/37, A61K-037/36, A61K-037/66, A61K-009/14, A61L-027/00, A61L-031/00, C07K-017/08, C08G-063/40
US Classification, Issued: 525054100, 525054200, 525937000, 530402000, 424484000, 424486000, 424488000, 523113000, 525937000, 424520000, 424529000, 424531000, 424537000, 424546000, 424548000, 424577000, 424578000, 424579000, 424580000, 525054200, 525054210, 525054220, 525054230, 525054240

13/34/19 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0006941861 - Drawing available
WPI ACC NO: 1994-340968/
Cellulosic tubular food casing esp. useful for sausage casing - contg. less or zero polyhydric alcohol softener has high coherency, lower breakage rate, higher pack efficiency, improved peelability etc.
Patent Assignee: VISKASE CORP (VISA)
Inventor: MARKULIN J
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5358765	A	19941025	US 1992846455	A	19920304	199442 B
			US 199415751	A	19941025	

Priority Applications (no., kind, date): US 1992846455 A 19920304; US 199415751 A 19941025

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5358765	A	EN	27	1	C-I-P of application US 1992846455

Alerting Abstract US A
A cellulosic tubular food casing contg. an olefin oxide polymer with Mw at least 70,000 uniformly dispersed through the tube wall in admixt. with the cellulose in wt. ratio olefin oxide polymer:cellulose at least 1:200.
USE - The casing is useful for daily or vegetable prods., and esp. sausage casings.
ADVANTAGE - The cellulosic tube contains less or zero polyhydric alcohol softener but still has high coherency and low breakage rate. It has higher pack efficiency under equiv. shirring and compression conditions. It may have increased or transparency; lower waste gas prod. during cellulose regeneration; improved peelability; faster absorption rate for water or liq. (esp. aq.) based coatings; **improved moisture control; faster** regeneration; high bores size; and high pack ratio.

Documentation Abstract
A cellulosic tubular food casing contg. an olefin oxide polymer with Mw at least 70,000 uniformly dispersed through the tube wall in admixt. with the cellulose in wt. ratio olefin oxide polymer:cellulose at least 1:200.
USE - The casing is useful for daily or vegetable prods., and esp. sausage casings.
ADVANTAGE - The cellulosic tube contains less or zero polyhydric alcohol softener but still has high coherency and low breakage rate. It has higher pack efficiency under equiv. shirring and compression conditions. It may have increased or transparency; lower waste gas prod. during cellulose regeneration; improved peelability; faster absorption rate for water or liq. (esp. aq.) based coatings; **improved moisture control; faster** regeneration; high bores size; and high pack ratio.

PREFERRED MATERIALS - The olefin oxide polymer is a homopolymer, pref. poly(ethylene oxide). It pref. has Mw at least 90,000, suitably 100,000 - 40,000,000 or 90,000 - 200,000. The tube may be fibre **reinforced. It** may be shirred. It contains 0 - 5 wt.% polyhydric alcohol softening agent on a dry basis. It may having liq. smoke incorporated therein. It may be a multilayer film, the interior surface layer contg. olefin oxide polymer and other layer(s) free of olefin oxide polymer. The interior surface may be coated **with a transferable edible colourant. The casing tube has wall** thickness 0.7 - 2.0 mils and circumference at least 4.4 (4.9 - 9.7) cm or at least 10.4 (10.4 - 54.9) cm. The interior surface of the shirred tubular casing may be coated **with a peeling aid compsn. comprising a release** agent, an anti-pleat lock agent, and opt. a surfactant, in an amt. effective to promote peeling. The peeling compsn. comprises a water-soluble cellulose ether, a phospholipid and a polyol. The release agent is selected from water-soluble cellulose or its salt, a carboxymethylcellulose salt, dextrin, casein, alginates, lecithin,chitosan **and/or phospholipids.** The anti-pleat lock agent comprises an oil or phospholipid. The casing comprises a film having moisture content below 35 wt.% and thickness below 23 micron. The shirred casing is at least 190 (230) ft. long. Wt. ratio olefin oxide polymer:cellulose is less than 1:9, pref. 1:20 - 1:100.

EXAMPLE - 10 wt.% soln. of "POLYOX WSRN-10" (RTM: poly(ethylene oxide)) was added at 25 cm3-min. to a viscose stream via a pigment apparatus just before extrusion. The mixt was extruded into a seamless tube, coagulated and regenerated using conventional procedures. The extruded tube regenerated faster and by-prods. washed out faster relative to a similar tube contg. no poly(ethylene oxide). It absorbed more moisture and when dried appeared more transparent and glossier than a casing without poly(ethylene oxide). (MC)

Class Codes
International Classification (Main): B65D-085/72
US Classification, Issued: 428034800, 138118100, 426105000, 426129000

13/34/20 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0006476675
WPI ACC NO: 1993-282275/
Tubular cellulosic articles e.g. sausage casings - comprises cellulose@ (deriv.) and an incorporated olefin oxide pref. poly(ethylene oxide)
Patent Assignee: VISKASE CORP (VISA)
Inventor: MARKULIN J
Patent Family (11 patents, 10 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update

EP 559456	A1	19930908	EP 1993301625	A	19930303	199336	B
FI 199300930	A	19930905	FI 1993930	A	19930303	199347	E
CA 2090884	A	19930905	CA 2090884	A	19930303	199348	E
BR 199300746	A	19931130	BR 1993746	A	19930304	199401	E
JP 6086628	A	19940329	JP 199369438	A	19930304	199417	E
US 5470519	A	19951128	US 1992846455	A	19920304	199602	E
			US 199315751	A	19930210		
			US 1994280744	A	19940726		
EP 559456	B1	19960925	EP 1993301625	A	19930303	199643	E
DE 69304956	E	19961031	DE 69304956	A	19930303	199649	E
			EP 1993301625	A	19930303		
JP 2794377	B2	19980903	JP 199369438	A	19930304	199840	E
FI 106913	B1	20010515	FI 1993930	A	19930303	200137	E
CA 2090884	C	20011216	CA 2090884	A	19930303	200163	E

Priority Applications (no., kind, date): US 1994280744 A 19940726; US 1992846455 A 19920304; US 199315751 A 19930210

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 559456	A1	EN	51	0	
Regional Designated States,Original: BE DE ES FR GB					
CA 2090884	A	EN			
BR 199300746	A	PT			
JP 6086628	A	JA	46	1	
US 5470519	A	EN	27	1	C-I-P of application US 1992846455
					Division of application US 199315751
					Division of patent US 5358765
EP 559456	B1	EN	43	1	
Regional Designated States,Original: BE DE ES FR GB					
DE 69304956	E	DE			Application EP 1993301625
					Based on OPI patent EP 559456
JP 2794377	B2	JA	44		Previously issued patent JP 06086628
FI 106913	B1	FI			Previously issued patent FI 9300930
CA 2090884	C	EN			

Alerting Abstract EP A1

Tubular cellulosic sausage casing and other cellulosic tubular articles comprise a cellulose cpd. (I) cellulose or deriv.) which has incorporated in it an olefinic oxide (II) compsn. (II) is pref. a polyethylene oxide compsn. of mol.wt. **at least 70,000.**

Pref. casing contains less than 5% by wt. of polyol, has liq. smoke incorporated in it, and is shirred. The casing pref. has circumference at least 4.4 esp. 4.9-9.7 cm (not fibre **reinforced), or at least 10.4**

esp. 10.4-54.9 cm. (fibre **reinforced); while the wall thickness is** pref. 0.7-2 mils. The tubular casing may have an interior surface coated **with a transferable edible colourant, or with a peeling aid** compsn. comprising a release agent (pref. H2O soluble cellulose or salts, dextrin casein, alginates, lecithin, chitosan, **a phospholipid or** mixts. esp. a salt of carboxymethylcellulose) and an anti-peat lock agent (pref. an oil or phospholipid)., and pref. also a surfactant. A pref. peeling compsn. comprises an H2O soluble cellulose ether, a phospholipid and polyol.

The prepn. comprises adding at least 0.5% by wt. of (II) to viscose; and extruding, coagulating, and regenerating the (II)-contg. viscose into a tubular film. Alternatively: (II) may be dissolved in a liq. soln. of (I), followed by forming a solid tube of (I) of thickness less than 10 mil; and shirring the tube into a tubular stick.

USE/ADVANTAGE - The casings may have lower polyhydric alcohol softener content and be stirred with high coherency and low breakage rate. Shirred cellulosic tube sticks may be prepd. with higher pack efficiency, and less waste gases are produced during the cellulose regeneration step which is also effected faster. Sausage casings have improved peelability under difficult peeling conditions, **while the casings take up and hold** greater amts. of H2O or liq.-based coatingsJ

Class Codes
International Classification (Main): A22C, A22C-013/00, A22C-013/02, B29K-001/00, C08L-001/00
(Additional/Secondary): B29C-047/00, B29D-023/18, B65D-085/72
US Classification, Issued: 264193000, 264196000, 264178F00, 452021000

13/34/21 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0005226252
WPI ACC NO: 1990-218928/
Coatings **for ruminant medicaments etc. - contg. organicsoluble** chitosan **deriv.**
Patent Assignee: RHONE POULENC SANTE (RHON); RHONE-POULENC SANTE (RHON)
Inventor: FRANZONI C; GAGNIEU C; PORTE H
Patent Family (8 patents, 8 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
FR 2639514	A	19900601	FR 198815675	A	19881130	199029 B
			FR 198815676	A	19881130	
AU 198945707	A	19900607				199029 E
PT 92466	A	19900531				199029 E
BR 198906257	A	19900626				199030 E

HU 52119	T	19900628					199033	E
US 5077052	A	19911231	US 1989442622	A	19891129		199204	E
SU 1823878	A3	19930623	SU 4742531	A	19891129		199444	E
JP 1995039441	B2	19950501	JP 1989309408	A	19891130		199522	E

Priority Applications (no., kind, date): FR 198815675 A 19881130; FR 198815676 A 19881130

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
BR 198906257	A	PT			
SU 1823878	A3	RU	6	0	
JP 1995039441	B2	JA	11		Based on OPI patent JP 02238001

Alerting Abstract FR A

A composition for coating **animal food additives and** biologically-active material for ruminants contains a chitosan **derivative having groups of formula (Ia) and (Ib). R1 = 2-4C alkanoyl, R2 =** 3-14C alkylidene, or benzylidene, the phenyl group of which may be substd. by one or more OH or methoxy groups, R3 = H, acetyl or 3 or 4C alkanoyl, R4 = H or 2-4C alkanoyl, identical to R1 such that the chitosan **derivative has a** molecular mass **of 10000 to 80000, 60-65% of** the amine functions are in the form of the imine -N=R2 and 3-35 to 40% of the amine functions are in the form of acetylamino, the remainder of the amine functions being primary amine or acylamino, and part of the radicals R4 are H and the rest are alkanoyl.

ADVANTAGE - The coating **is stable at pH above 5 but breaks down** rapidly at pH 3.5. This gives protection in the rumen but liberates the active material in the abomasum. Unlike chitosan **itself, it is** organosoluble, making coating **a simple** process.

Equivalent Alerting Abstract US A

Organosoluble chitosan **derivs. (I) comprising a random chain of** units of formula (II) and (III) are new, where R1 is 2-4C alkylcarbonyl; R2 is 2-21C alkyl or opt. substd. phenyl; R3 and R4 are each H or 2-4C alkylcarbonyl. Pref. cpds. (I) have average mol. wt. **of** 10,000-110,000 (10,000-25,000), and contain 60-100% of units of formula (I) and 0-40% of units of formula (II), and R1 and R3 are CH3CO, and R2 is 5-12C alkyl. Prepn. of (I) comprises (a) hydrolysis of chitosan **which** has been deacetylated by more than 80%, (b) condensing an aldehyde of formula R2CHO with the prod. from (a), then esterifying with an acid of formula R1OH or a deriv.).

USE - Cosmetics, coating **metals or in prepn. of film,** fibres **or** coatings. Coated **granules contain medicament, vitamin or** essential aminoacid, esp. methionine or lysine.

USE - (7pp)

Class Codes
International Classification (Main): C08B-037/08
(Additional/Secondary): A23K-001/16, A23K-001/18, A61K-031/71, A61K-031/715, A61K-031/73, A61K-047/36, A61K-007/00, A61K-009/14, A61K-009/34, A61K-009/36, B01J-013/02, C07D-311/00, C08J-005/18, C09D-003/10, D01F-006/96
US Classification, Issued: 424438000, 106162000, 424439000, 424442000, 424463000, 424489000, 424490000, 424493000, 424499000, 514055000, 536020000

13/34/22 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0005182528
WPI ACC NO: 1990-173218/
Organo-chitosan **derivs. for** coating **e.g. animal feed additives** - prepd. by de-acetylating chitosan, **condensing with aldehyde and** esterifying with acid
Patent Assignee: RHONE-POULENC SANTE (RHON)
Inventor: FRANZONI C; GAGNIEU C; PORTE H
Patent Family (6 patents, 17 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 371878	A	19900606	EP 1989403307	A	19891129	199023	B
FR 2639639	A	19900601	FR 198815675	A	19881130	199029	E
			FR 198815676	A	19881130		
CA 2004195	A	19900531				199033	E
DK 198906024	A	19900531				199035	E
ZA 198909096	A	19900829	ZA 19899096	A	19891129	199040	E
JP 2238001	A	19900920	JP 1989309408	A	19891130	199044	E

Priority Applications (no., kind, date): FR 198815675 A 19881130

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 371878	A	EN			
Regional Designated States,Original: AT BE CH DE ES FR GB GR IT LI LU NL SE					
CA 2004195	A	EN			
ZA 198909096	A	EN			

Alerting Abstract EP A
Organosoluble chitosan **derivs. (A) comprises chains of gps. of** formula (Ia) and (Ib).
In formulae R1 = 2-4C alkylcarbonyl; R2 = 2-21C alkyl or phenyl (opt.

substd. by one or more OH or alkoxy pref. 5-12C alkyl R3 = H, acetyl or 2-4C alkylcarbonyl. R4 = H or 2-4C alkylcarbonyl. Pref. R4 = R1, R1 and R3 = acetyl, and (A) has a mol.wt. **of 10,000-110,000 (pref.** 10,000-25,000) and contains 60-100% of (Ia) and 0-40% of (Ib). (A) are prepd. as follows:- (a) chitosan **is desacetylate to more than 80%,** pref. using 25-50g chitosan **per litre of 0.5-1N, (b) deacetylated** chitosan **is condensed with an aliphatic or aromatic aldehyde using a** molar ratio of aldehyde to monomer of chitosan **of at least 15 esp.** 20; and (c) the chitosan **prod. from (b) is esterified pref. with an** acid or its halide or anhydride.

USE - (A) are used in cosmetics, to complex metals, for making films, fibres **or coverings for** coating **feed additives or biologically** active material for ruminants such that the compsns. are stable at pH greater than % and permits the release of the substance at pH less than 2.5, or for coating **granules of active agents such as medicaments,** vitamins or essential amino acids (esp. methionine or lysine).

Class Codes
(Additional/Secondary): A23K-001/16, A61K-047/36, A61K-007/00, A61K-009/16, A62K, C02F-001/28, C08B, C08B-037/08, C08J, C08J-005/18, C09D-105/08, C09D-003/10, C09J-005/18, D01F-006/96, D01F-009/00, D06M-015/00

13/34/23 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0005182401
WPI ACC NO: 1990-173084/199023
Wound covering having good adhesion, flexibility and durability - comprising polyurethane resin film having good moisture permeability and sheet bio-polymeric material effective for tissue cell growth
Patent Assignee: MITSUBISHI KASEI CORP (MITU)
Inventor: KAMIGAMI Y; KOBAYASHI T; KOUNAMI Y; KUROYANAGI T; KUROYANAGI Y; SHIOTANI N; SHIOYA N
Patent Family (6 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 371736	A	19900606	EP 1989312302	A	19891128	199023	B
JP 2147062	A	19900606	JP 1988301856	A	19881129	199029	E
US 5035893	A	19910730	US 1989440197	A	19891122	199133	E
EP 371736	B1	19940413	EP 1989312302	A	19891128	199415	E
DE 68914604	E	19940519	DE 68914604	A	19891128	199421	E
			EP 1989312302	A	19891128		
JP 1994104116	B2	19941221	JP 1988301856	A	19881129	199504	E

Priority Applications (no., kind, date): JP 1988301856 A 19881129

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 371736	A	EN			
Regional Designated States,Original: DE FR GB IT					
EP 371736	B1	EN	15	0	
Regional Designated States,Original: DE FR GB IT					
DE 68914604	E	DE			Application EP 1989312302
					Based on OPI patent EP 371736
JP 1994104116	B2	JA	8		Based on OPI patent JP 02147062

Alerting Abstract EP A

Wound covering comprising a sheet of biopolymeric material and a film of polyurethane resin obtainable by reacting a diisocyanate and a tetrahydrofuran/ethylene oxide random copolymer to produce a urethane prepolymer, and extending the molecular chain using a chain extender, Random copolymer has 20-80wt.% ethylene oxide content and M of 800-3000. Polyurethane film has water-vapour permeability of 2000g/m2.24hrs. or more and 100% modulus of 20 kg/cm2 or more.

Pref. random copolymer has 30-70 wt.% ethylene oxide content and has Mn of 1000-2500.Siisocyanate is an alicyclic diisocyanate e.g. isophorone diisocyanate, 4,4'-dicyclohexylmethane diisocyanate, 1,4-cyclohexylenen diisocyanate and hydrogenated tolylene diisocyanate. Chain extender is alicyclic diamine e.g. isophorone diamine, 4.4'-dicyclohexylmethane diisocyanate, 3,3'-dimethyl-4,4'-dicyclohexylmethane diamine, and 1,4-cyclohexylene diamine. Thickness fo polyurethane film is 10-80 microm.

USE - For wound coverings part. wound coverings comprising a sheet of biopolymeric material which is effective for growth of tissue cell as an artificial skin.

Equivalent Alerting Abstract US A

The laminate wound covering comprises a sheet of biopolymeric material from collagen, gelatin, alginic acid, chitin, chitosan, fibrin, dextran and polyamino acids, for contacting the wound and a film of a polyurethane resin in contact with the biopolymeric material sheet having a water-vapour permeability of 2,000 g/m2.24 hours or more which is obtd. by reacting a diisocyanate and a random copolymer of THF and ethylene oxide to produce a urethane prepolymer, and extending the molecular chain of the prepolymer by using a chain extender, the random copolymer having 20-80 wt.%, pref. 30-70 wt.% of the ethylene oxide unit in the molecular chain and having a number-average MW of 800-3,000, pref. 1,000-2,500. Pref. the polyurethane film or the sheet of a biopolymeric material contains an antibacterial agent.

USE - Wound coverings are mfd. by the process.

USE - (8pp)

Class Codes

International Classification (Main): A61L-015/16, A61L-015/26

(Additional/Secondary): A61F-013/02, A61K-009/70, A61L-015/28, A61L-015/32
, A61L-015/44
US Classification, Issued: 424447000, 424443000, 424445000, 424484000,
424485000, 424488000
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